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Chapter 8. Data Products and Dissemination

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Chapter 8. Data Products and Dissemination

THE 1980 CENSUS TABULATION AND PUBLICATION PROGRAM

INTRODUCTION

The 1980 census tabulation and publication program's first priority was to comply with the Census Bureau's legal mandate (Title 13, U.S. Code, Section 141 (b) and (c)), which called for certain basic data to be delivered by specific times. The Bureau met its two deadlines:

- Within 9 months of Census Day, the President received population counts by State for purposes of reapportioning the seats in the House of Representatives, and
- Within 1 year after Census Day, it gave each State a set of population tabulations, by specified geographic areas, for determining congressional, State, and local legislative boundaries (see p. 29 below). While such tabulations had been provided to individual States on an ad hoc basis in the past, this was the first time Congress (by Public Law 94-171) had required such a product for the entire country.

The 1980 program resembled the one for 1970 in scope, but with far greater emphasis on disseminating data on computer tapes and microfiche. Although the Bureau was unable to prepare all the printed reports it had planned for 1980, it nevertheless tallied and published more data than in any previous census: approximately 1,400 reports, totaling some 300,000 pages (8-1/2"x11"), compared with 2,000 reports and about 200,000 pages (9-1/8"x11-3/8") for 1970. All the planned computer summary tapes for 1980 were produced and distributed, and they represented close to five times the amount of data issued on tape after the 1970 census.

These accomplishments had a price, both in dollars and time. The decennial census had run out of money in 1980 because it counted 5 million more people than had been originally estimated and budgeted. The field offices had to remain open longer than scheduled. A supplemental appropriation took care of some of this problem, but there was a period of about 6 months of funding uncertainty during which vital decennial census work had to be curtailed or, in some instances, even halted entirely. It was impossible to recover the lost time since the funding problem had been compounded by first, a slowdown in the local review program; second, a delay caused by the need to check out the status of every housing unit

Table A. Comparison of Key Operations, 1970 and 1980

(Excludes Puerto Rico and outlying areas)

Item	1970/80												1971/81												1972/82												1973/83													
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	*											
District offices closed				x	x	x	x	x																																										
Preliminary report				x	x	x	x	x	x																																									
Advance reports								x	x	x	x	x	x																																					
P.L. 94-171 program														x	x																																			
Summary tape program ..																																																		
Final reports																																																		

x 1970.

o 1980.

* and subsequent period.

reported as vacant (see ch. 5); and third, the encumbrance of many lawsuits (see ch. 10). Despite these setbacks, the Bureau did deliver the congressional apportionment counts by the end of December 1980, on schedule. Through an intensive effort that meant diverting talent from other scheduled work, the States received their data for redistricting (P.L. 94-171) by the April 1981 deadline. To accommodate users' needs for sample data for the Nation and large substate areas, selected samples were processed ahead of schedule and the results were printed for distribution beginning in April 1982 in the PHC80-S1 series of "Supplementary Reports."

All of this had its effect on the 1980 tabulation and publication program in terms of delayed processing and modified products; yet, in the end, more data were available for 1980 than for 1970. The increase in the number of census blocks from 1.8 million in 1970 to 2.5 million in 1980, together with more data cross-tabulated by race and Spanish origin, are two examples of the additional statistics.

Printed reports—The Census Bureau originally planned to issue most 1980 reports in several formats—paperbound and hardbound volumes as well as microfiche. In May 1981, the Bureau modified those plans and abandoned the idea of reissuing the paperbound reports in hardbound volumes. Initially, it was decided to offer the PHC series block and tract reports and the detailed data in series PC80-1-D and HC80-2 only on microfiche, reduce the number of other products on fiche except for a few summary tape files (STF's), reduce the number of the series PC80-2 subject reports (see app. 8A), and not produce ZIP-Code data. Adapting to the budget, the publication staff working on the 1980 census was cut back and the release dates for the reports were extended. Subsequently, the Bureau was able to respond to users' requests for tract and other detailed data in paperbound reports rather than on fiche alone. The ZIP-Code data were produced on tape on a cost-reimbursable basis for a consortium of users, who had exclusive rights to the tapes until 1985, when the Bureau was free to sell copies generally. Beginning in 1984, all of the 1980 printed reports, including any internal maps, were made available on microfiche (see below), leaving the census block statistics—374 reports (approximately 39,000 pages)—as the only major series not in paper form. Even here, users could use the fiche to make their own paper copies or purchase them from the Bureau.

Thus, final data for the traditional printed volume 1, "Characteristics of the Population," appeared in the PC80-1 (population) and HC80-1 (housing) series; and population volume 2, "Subject Reports," was issued in the PC80-2 series. Housing volume 2 was HC80-2, "Metropolitan Housing Characteristics," and housing volumes 3, 4, and 5 were represented in three series: Subject Reports (HC80-3), Components of Inventory Change (HC80-4), and Residential Finance (HC80-5), respectively. While a complete set of PC80-2 subject reports had been planned, for budgetary reasons (as noted above), some were

canceled and the publication of others, such as a few of the race reports, was delayed until later in the decade when other Federal data users helped fund the tabulation and publication costs.

Microfiche—While the Bureau made limited amounts of data—principally summary-tape displays—available on microfilm after both the 1960 and 1970 censuses, it then discontinued the use of microfilm as a product medium and for 1980 offered microfiche instead. Microfiche had several advantages: The 4" x 6" sheets of film contained up to 98 pages of printed material and could be easily and compactly stored, and the reading equipment was reasonable in cost and widely available. Thus, fiche was a fairly inexpensive way to provide a great deal of data. Commercial firms were selling census publications dating back to 1790 on fiche, and fiche for reports from 1968 forward became available either through the Census Bureau or the Government Printing Office. For the 1980 census, virtually all of the reports issued on paper also appeared on fiche. In addition, some of the data appearing on computer tape, notably from STF's 1A and 3A, the Equal Employment Opportunity (EEO) file, and the Public Law 94-171 population counts file (needed in legislative redistricting), were repeated on fiche. Because of this broad overlap, no attempt has been made in this chapter to describe the fiche products as a separate category. Printed report series on paper or fiche—are described in the section beginning on page 8-40.

Public-use tapes—Public-use tapes for 1970 consisted of about 2,000 master reels at 556 or 800 characters (bytes) per inch, or "bpi." For 1980, the output was about 1,100 reels, but technology now allowed "packing" of up to 12 times as many data on 1 inch of tape as was possible in 1970. Most of the reels of 1980 were 6,250 bpi, with maximum capacity of 160 megabytes (160 million bytes) each. Allowing for less-than-capacity reels, the 1,100 reels of tape represented 160 gigabytes (160 billion bytes) of data.

The 1980 census tabulation and publication system (i.e., the combination of equipment and procedures needed to do the work) was designed during the late 1970's on the basis of anticipated requirements, and was refined to accommodate budget and computer-processing constraints. The system as a whole comprised three subsystems—tabulation, photocomposition, and publication; these are described in the following sections. The three subsystems were interdependent in the sense that they had the same end purpose—published data products. Thus, the tabulation subsystem was shaped to fit the table outlines. The outlines were designed to meet user needs on the one hand, and the ability to tally the data for the tables, on the other. Photocomposition parameters influenced the choice and arrangement of tables; those parameters affected data-product decisions that led to the tabulation plans in the first place.

In general, the tabulation and publication requirements resembled those for 1970. The systems had to take into account changes in the characteristics of the UNIVAC computer system since 1970, such as in the tape-drive standards, mass storage and core, system stability, the charging algorithm, and the availability of terminals, as well as increases in mainframe power. There were changes in the tabulation and publication program for 1980 over 1970: The three 1970 counts (i.e., computer "runs" of the census basic record tape that summarized the statistics to be published) for 100-percent data were combined into two for 1980; a new report series was added for governmental units; and there were data products for redistricting and neighborhoods. There also were significant alterations in the precensus process after the dress rehearsals, changes in the budget (as already noted) and staff, and, during the census processing itself, unanticipated rerunning of detail files.

TABULATION SYSTEM

After evaluation of possible alternatives for 1980, it was decided to modify and use the generalized tabulation system (GTS) already in place at the Census Bureau for nonprogrammers who needed to tally and summarize data and produce printed tables. The GTS fell short of the 1980 census's complex geographic and tabular requirements, hence its use generally was confined to its dictionary and tallying capabilities.

The GTS dictionary was created independently from the tally for which it was required. The dictionary described the base data to be tallied; that is, each item was given a name, and entries stated the record type and location of the item, its language, and range of permissible codes. The dictionary also carried blocks of coding that could be added to tally programs to create recodes from one or more data items. (A recode was a reclassification or recombination of the various questionnaire categories represented in one or more data items; for example, poverty status was determined through the responses to the questions on household relationship, number of persons in the household, and household income.) There was one permanent, updatable GTS dictionary for each of the edited detail files tallied in the census.

Tally specifications were developed to provide all of the counts or estimates required by the table outlines for a particular report. Additional data tallies were specified to facilitate data check-out, provide unpublished data for public-use tapes, or produce base data to be used in suppression procedures (i.e., those used to prevent identification of individual persons or housing units in the published tables). Where a necessary distribution or recode did not appear in the dictionary, it was prepared and added.

The summary levels to be produced were determined according to table and user requirements and the minimum tally level (the "least common denominator," or LCD) was identified. The LCD allowed the later generation of all higher summary levels. The universe for each matrix was examined and notes were

made of each different universe and of which matrices had the same universe. A plan was devised to show the flow of the input data through the program. Generally, the matrices with the least restrictive universes were tallied first; within those categories, housing tallies preceded population tallies. A list of the names of recodes required for each matrix was compiled and arranged in the order in which the recodes would be needed during processing, together with the names of any necessary supporting recodes and procedures. The list then was reviewed to eliminate any duplicate recodes.

Programming

The Decennial Census Division (DCD) staff wrote GTS statements and commands for the GTS tally generator to use in creating source coding and in compiling a GTS COBOL¹ tally program. In the process, specified blocks of coding from the GTS dictionary were incorporated into the tally program. If the generator or compiler detected inconsistencies or "illegal" operations, corrections were made and the process was repeated. The resulting program directed the computer to produce tally summaries at the lowest level, from which all higher-level summaries would be accumulated. Summarization was done outside the GTS, usually with two or three custom-coded programs that directed production of the summaries, sequencing of the files, addition of area names from the MRF (master reference file) name files, and assignment of keys from which data suppression was performed with subsequent programs. Some generalized subroutines for packing, unpacking, data suppression keys, and so forth were incorporated to provide consistency and efficiency.

Testing and Verification

The Bureau divisions involved in the census selected three "test" States—Montana, Rhode Island, and Vermont. The tabulations usually were verified by running the data for these three States through test and production-test modes on the computer. In the first phases of testing, test decks and/or a small portion of a detail file were used as input. Output was prepared for review by using several types of data displays and/or dimension summary displays (DSUM's); the types were as follows:

1. **Full displays** produced a complete display for every matrix for every area for all summary level(s), including geographic codes names, and data-suppression keys. In practice, full displays were produced only for all areas of the three "test" States, and then only for STF's (summary [computer] tape files) 1 to 3. (Because of their size, STF's 4 and 5 were reviewed with products other than full displays.)

¹Common Business-Oriented Language, a high-level programming language.

Displays for other reports or States were more selective. Areas were chosen by means of parameters to solve specific problems (see 3. below).

2. **First-occurrence displays** produced for each summary level a complete display for the first area to occur.
3. **Selected data displays** produced full displays or particular matrices for selected areas.
4. **DSUM's** showed for all areas and summary levels the complete geography, a universe total, and values for each category of each stratifier in each matrix as if the stratifier were the only dimension for the matrix. Again, DSUM's for all areas, levels, and matrices were generated only for the three test States' sample data. Elsewhere, DSUM's were parameter driven and restricted to specific areas and levels, and occasionally to certain matrices.
5. **Abbreviated DSUM's** produced complete geography, including suppression keys, and universe totals for every matrix in every area and summary level, unless parameter cards limited them to designated areas and/or levels.
6. **First-occurrence DSUM's** were produced as in 2. above.
7. **Selected DSUM's** were produced as in 3. above.

The STF data first were checked internally to see that like universes and their stratifiers came up to the same numbers. This was followed by verification from external sources such as independent tallies and various publications. As the number of cleared tabulations and publications increased, so did the number of sources for check data. Subject-matter specialists were given displays so they could review the results after the internal checking had been performed. The usual procedure was to run the STF data for the State of Montana until they had been cleared by the subject-matter divisions, and then to run the data for Rhode Island and Vermont in a production mode. After that, it was assumed that the STF programs would work with the remaining States without further review.

Deferred GTS Tally

When processing reached STF (summary tape file) 5 and most of the subject reports, the number of tally cells per summary grew so large that DCD developed what was called a deferred GTS tally procedure. This was designed to handle very large tallies while still retaining the GTS dictionary content and capability. To record a tally, the relative position of a designated tally cell within a summary was computed, and the increment was combined with the weight to be tallied. This formed a construction called an IW (increment/weight). The IW's were packed into arrays and written out as the arrays were filled up or the geography changed. A parameter record was formatted and placed at the front of the output IW file to define the characteristics of each matrix.

The generated GTS tally program had to be recompiled with additional COBOL codes to control activities not provided by the GTS tally generator and that could not be added until after the tally had been generated.

Planning for deferred GTS tallies was similar to that for the regular GTS tallies, except that the second phase of the deferred process required a separate program to unpack the IW sets and accumulate values into the appropriate cells. The expansion and accumulation of summary data was controlled by the parameter record and required virtually no programmer activity.

Two generalized summary outputs were produced—one for States, and the other for divisions, regions, and the Nation. The same procedure as for regular GTS tabulations was followed to verify very large tabulations, except that their size precluded the use of full data displays.

Other

In a limited number of instances, tallies were written outside the GTS, but in such a way as to blend in with later software and other existing procedures.

Some tallies required input of control files to add specialized geographic codes; other tallies "wrote" specialized files. Programs were developed to tally complete universes for ease of checking, and then revised to tally a "screened" file or universe subset prior to production processing; this reduced computer costs for the latter.

A common variant of the summary process was to introduce an equivalency file that equated census geography to special areas such as neighborhoods, school districts, and the like. The equivalency file usually matched STF 1 and/or STF 3 LCD files in assigning special codes used later in the summarizing process.

PHOTOCOMPOSITION SYSTEM

During the 1970's, several Census Bureau divisions were involved in identifying and evaluating available computer composition systems and recommending selection of one for 1980. It was decided, however, to adapt the Linotron system used for the 1970 census to the VideoCOMp phototypesetting equipment system used for the subsequent 1977 Economic Censuses, but with a number of major improvements and objectives for 1980 over 1970, such as:

- Eliminating the hundreds of thousands of input cards that made up the 1970 table components
- Improving retrievability of table components between and within reports
- Reducing the number of corrections required during page-image creation
- Automating many aspects of the page or table composition, specifically reducing markup and coding requirements

- Introducing greater consistency and standardization in terminology, reports, etc.
- Improving timeliness of publication
- Streamlining checkout and review processes

In general, these objectives were met and almost without exception, page images were available before they were needed.

The 1980 photocomposition system comprised a set of programs and procedures, described below, designed for use on the Bureau's ENTREX and UNIVAC computer systems, that allowed creation of computer tapes capable of being processed either on the Bureau's computer-output-to-microfiche device (COMp80/2) or the Government Printing Office's VideoCOMp equipment to produce statistical tables. The COMp80/2 output was on photosensitive paper or microfiche for proofreading; the VideoCOMp provided output on photographic film or photosensitive paper for printing.

Table Outline Operations

Table outlines are the minimal representation of a statistical table with all the table components defined, including titles, headnotes, boxheads, area designators, stub sideheads/data lines, and footnotes. The table outlines also included estimates of the numbers of data lines and columns, data-field size requirements, and the number of output pages. The subject-matter divisions (Population and Housing) transmitted the table outlines to the Decennial Census Division (DCD) in various forms, including typed originals, marked-up drafts, and pasted-up versions of previous reports. DCD reviewed the terminology on each report or STF outline for content and internal consistency, as well as consistency with tally specifications and table components in previous reports and summary tape files (STF's). During the review process, the tables were reduced to their lowest-common-denominator (LCD) components, which were identified as existing in the 1980 glossary, the 1970 glossary, or neither. The outlines were also reviewed with an eye toward potential problems in tallying or manipulating the data. After circulating the outlines for comments and resolving differences with the subject-matter staffs, DCD released the final version for use.

Within a report, a subset of the tables designated as "unique stubs and boxheads" underwent **markup**—the process of formatting the table components on pages in a manner that conformed to publication standards. Markup was applied only to the "worst cases"—those versions of the tables with the widest possible stub for each boxhead or the deepest boxhead for a stub. This ensured consistency of presentation among the tables in a given report or series. Generally, the markup specifications included the following:

- Orientation of tables—upright or broadmeasure
- Horizontal allocation of space for the stub and columns, including the data-field size

- Vertical allocation of space for the boxhead and stub, including runover and blank lines
- Format of the data—integer, one decimal place, etc.
- Page breaks for multipage tables
- Stub sidehead level, bold data-line designations, and data-line indentations
- Other items where needed, such as the format, position, and sequence of data-driven variables (such as "A" fields) developed by the table-preparation programmers

Updating the Glossary

Both the 1970 and 1980 censuses had glossaries that contained the terminology used in the statistical tables developed from the table outlines, such as blocks for titles, headnotes, boxheads, sideheads/area designators, stub data lines, and footnotes. Some of the glossary items also included composition controls, such as for casing, hyphenation, and indentation.

The 1980 glossary consisted of random-access files of individual glossary blocks referenced through the use of existing systems software. Updating required three UNIVAC computer runs, two UNIVAC-ENTREX transmissions to select and move the source blocks maintained on the UNIVAC files to the ENTREX system for display, and then an ENTREX program to key corrections. The corrected file then was moved back to the UNIVAC equipment for review and insertion of any new blocks into the 1980 glossary. Blocks could be moved from the 1970 glossary to the 1980 glossary by using another UNIVAC process, without going through the ENTREX step.

During the process of finalizing the table outlines, the DCD staff first identified all the components in terms of which blocks existed in the 1980 or 1970 glossaries and which did not, and created the ones that did not exist from similar blocks in the glossary. The source blocks then were transmitted from the mainframe computer memory to the ENTREX equipment, where a listing of the designated source blocks was printed. This listing was then annotated to reflect changes, which then were keyed. The updated listings then were transmitted to the mainframe computer memory, displayed on screens, and reviewed.

The DCD staff moved designated blocks with their appropriate identifiers into the 1980 glossary. Each block was identified with a reference name, such as MS for marital status; each variant of MS had a different version number—MS(1,2,...n). Within each section, title, headnote, etc., the displayed glossary blocks were arranged in sequence for ready referencing. Most blocks were in alphabetical-reference-name/length-of-block sequence; for example, nine-line "age" blocks followed the eight-line "age" blocks. Some sections had blocks arranged in their sequence of entry in the glossary. DCD displayed and issued the glossary updates on looseleaf pages with one block

per page, and about once a month it displayed the complete 1980 glossary with multiple blocks per page. A block-deletion technique was used to remove errors.

Developing and Expanding the Page-Image File

Once the glossary had all the table component blocks needed for a report, the next step based on the markup was to code, create, and display page images that contained unique stubs and boxheads. This process involved retrieving blocks from the glossary that represented specified tables or parts of them and coding their "aesthetics," such as spacing and typefaces. Limiting the displayed images to the unique ones reduced the amount of review and correction or adjustment. After reviewing these, the DCD staff began developing the complete page-image base file by retrieving all or part of the unique stub and boxhead file and/or using other glossary components. By using the "worst case" approach, it was not necessary to mark up the base file itself.

Expansion of the base file involved picking up the standard portion and/or adding the variable portion (such as geographic names or identification codes) of the data required for each publication area in a given report series. Each table that needed the addition of one or more namelists underwent additional markup. Some actions were required only once for a report series: For stub expansions, this involved designating the namelist to be used, specifying the available area in the stub, and indicating any applicable sidehead spacing. For boxheads, it meant defining the depths of the boxhead levels and specifying the namelist(s) to use. For each area in a report series, the staff determined how much of the variable data would fit on a page, taking into consideration data-field size, name-length requirements, reader breaks, sidehead spacing, and page-continuation needs. These markup specifications were coded to expand the tables. Not all of the reports were handled in this manner; some had data-driven expansion operations specified in the table-preparation program. For some reports, the unique stub and boxhead file equaled the base file, or the base file equaled the expanded file.

Retrieval and compiler programs were used in a computer run. **Retrieval programs** were used to produce page images in the form needed by the photocomposition compiler, and the compiler output became input to the photocomposition display and merge operations. Input to the retrieval program was a set of coded commands leading to the creation of a page-image file. Among the retrieval commands were such functions as obtaining the glossary blocks or lines, supplying pagination information, crossing glossary stub blocks, composing folio lines, retrieving previously used commands in whole or part, inserting vertical spacing, indenting stub lines, adding footnote symbols, and so on. The retrieval program worked at the table level, but was used to produce page units. Each table normally was processed as an entity, whether it was a one-page or a multipage table. For the latter, parameters were used to paginate the table by stub lines, boxhead columns, or both. Each

set of input commands—retrieval and nonretrieval—used to create a table was also stored in a retrieval element and could be reused by means of a retrieval system command.

Using the **compiler program** while producing compiled page images, the computer issued error, warning, and informational messages. The program allowed the computer to read the uncompiled page-image elements and create compiled page elements, one page at a time; to list all these pages with their terminology, controls, and messages; and to check such things as the page-size limits and the presence of necessary table components in the correct sequence. If the computer determined that the compiled page-image would not be correct, it printed out an error message and did not compile the page. A clerk reviewed this message, resolved the problem, and reprocessed the page. After each run, the computer produced a summary showing the compilation status of the pages processed. This retrieval and compiling system created unique stub and boxhead files, base files, and expanded files.

Creating Photocomposition-Device Output

The Bureau's system used two types of programs, described below, for presenting photocomposition output; these programs allowed the computer to convert the files to a format suitable for processing on the COMp80 and/or VideoCOMp systems.

Data page-image program—This program contained the commands for merging the compiled page-image elements with the statistical data from a table-preparation data file. The compiled images usually determined where on the page and in what format the data would be shown. The computer used a table-identification number associated with specific table-preparation data to select the proper page images, or it could selectively merge tables that fell within prescribed parameters. There were two options—"G" (generator) and "M" (mix)—available for the merge: Under the "G" option, data could be directed to specified page images and did not have to fill the pages of the table exactly; there could be less than a page of data. The same page image also could be filled several times with data, each image and data-merger being written out in turn. The "M" option directed that the data would have to fit the targeted table exactly as specified for all pages in the table. Here, data filled each page image in turn and the images could not be reused.

Page-image display program—This program allowed the computer to display compiled page images for unique stubs and boxheads and for base and/or expanded files without data. The pages were presented as they would appear, except that format codes were shown in the data fields. The reviewer could select specific tables and pages.

Namelist Operation

A namelist was an inventory of geographic terms organized by State, standard metropolitan statistical area (SMSA), and the like, often with appendages such as county, city, or town,

that provided the terminology for a table or part of a table. Sometimes a namelist had spanners or sideheads present and could have glossary-block subcategories such as "male" and "female." The namelist was structured in the same fashion as a glossary block, using a number of routines developed for glossary processing. Namelist blocks were created on the computer from existing files, without keying; a few namelists were created by the glossary-block method (see p. 8-9).

Creating the namelist was a generalized, partially parameter-driven, two-step process based on specifications that defined the namelist's makeup. In step 1, names were gathered from various reference files (MRF's) or other files such as place-of-work lists. In step 2, the step-1 output (and crossover pieces, if any) was compared with the namelist specifications to see if each area qualified for inclusion. For some lists, glossary blocks were replicated as part of the namelist. For most namelist processing, a file with geographic codes was produced for comparison against the table-preparation output. The namelists were also checked by clerks, who reviewed computer displays and printouts for test areas.

Enhancements

To make the photocomposition software easier to use, the DCD developed a number of system enhancements:

Pre-merge routine—This alleviated the need for both the programmer and the photocomposition staff to understand and interpret the page requirements for a double-pagination table. The routine allowed the table-preparation data to be segmented by applying the page cuts as dictated on the page-image file.

Characteristics display—This abbreviated display of the base page-image file provided information such as remaining space available in the stub, the position and depth of horizontal spacing, etc., for the expansion-markup process.

Glossary history display—This display showed the usages (that is, the specific table) of each 1980 glossary block. It was used only for deletion purposes.

Special symbol file—This file contained predefined symbols, such as for "jam" values for the upper and lower limits of medians, "not applicable" (three dots), and so forth. The table-preparation programmers and the photocomposition staff used this file to insert overrides in the tables.

PIF (page-image file) protection—To prevent accidental changes to cleared PIF's, a PIF protection procedure allowed the file to be read but not altered.

Pagination capabilities—These routines simplified the pagination processes. Parameters provided by the photocomposition staff allowed the creation of tables with two or more pages in both the stub and boxhead or paneled pages (i.e., tables not wide enough to spread across the page but narrow enough to have two or more on a page).

Boxhead pagination—Based on the number of columns per page, the boxhead terminology was formatted on a page with the appropriate continuations for the higher level boxhead categories (spanners). This accommodated boxheads, such as those for industry and occupation, that spanned many pages.

Computer composed folio elements—Folio lines were created by retrieving the report and area names and page-number prefixes from established folio elements for the report series.

Base/expansion comparison—A computer match between the base and expansion files ensured that any non-namelist components were consistent. A similar feature verified that the expanded table had a terminal rule (a horizontal line at the end of the table).

Glossary updating—This process paralleled but bypassed the ENTREX operations, allowing a clerk, using a demand terminal, to update the glossary directly on the mainframe computer.

PREPARING DATA PRODUCTS BY COMPUTER

Published Reports

Generally, the first reports from the census show few characteristics for many geographic areas, while the later reports contain detailed data on many characteristics for a smaller number of geographic areas. This shift in emphasis required corresponding shifts in programming and other activities. The preparation process for a printed report used table outlines and STF specifications, and required the creation of further specifications; the development of the necessary software; a review procedure to allow checkout of the specifications, programs, process, and data; and a production processing system. Depending on the report, the number of specifications varied, and were prepared either in the DCD or in the subject-matter divisions. In either case, the participating divisions reviewed and corrected the initial drafts; the resulting specifications normally were updated further as the software-development and data-review processes continued.

Specifications were required for the following:

Data manipulation—These specifications indicated the source of the data from the STF's, the manipulations required, and their output format and sequence. The manipulation usually involved rearranging data, performing arithmetic operations, and developing derived measures from one or more matrices. Each data cell in the table had to be defined—some as special cases to be "jammed" appropriately.

Data suppression—Generalized disclosure-avoidance rules were used to develop exact specifications for suppression of each data cell or groups of cells in a table to prevent identification of individual persons or housing units in the published reports by subtraction or other arithmetic means.

Historical data—For reports that required historical data, specifications had to be developed to tally, summarize, and manipulate them for the tables. In some instances a tally was not required, but specifications were needed to key, edit, update geographic codes, and otherwise process data from publications or other sources or to extract them from existing summary tapes, and to summarize them appropriately. Given a variety of input sources consolidating the data from them required a series of programs and operations.

Name files—Geographic area names or codes were introduced most often through the page-image files that the photocomposition system produced. In some cases, name or code selection was based on criteria that did not allow them to be prepared along with the page images; here, the table-preparation programs were used to set the names or codes into the page images. When the names or codes were introduced through the photocomposition system, specifications had to be written for matching and verifying the independently derived areas to those selected through table preparation. Such things as typeface, type size, indentation, continuation rules, and the like, had to be specified in all cases.

Control files, lists, and criteria—Selection specifications were written for tables that showed data selectively, such as tracts with 400 or more Black persons. The selection criteria varied in complexity.

Other files—Specifications were prepared for data files, such as footnotes or land area, that had to be introduced.

Page composition—Some reports, such as PC80-2-6E, table 3, and PC80-1-A, table 4, required that nearly all the data (geographical or statistical) on a page be set or controlled by the table-preparation process. These had to have very detailed specifications covering which areas went on a page, sideheads, data lines, indentations, overrun lines, reader breaks, end-of-page rules, widow lines, and so forth.

Derived measures—Specifications explained the method of computation and spelled out such things as rounding, step sequence, decimal points, treatment of upper and lower intervals, midpoints, jam values, etc. Based on specifications such as those listed above, and as many as were applicable to a particular report, programs were written to prepare computer output for merging with the page-image files. This output consisted of records with identification fields, data fields, alphanumeric strings, or special control fields, which normally had to be consolidated and put in sequence prior to merging. A

number of standardized routines were used for such tasks as unpacking records that had zero data packed out, name formatting, matrix summarization, mean and median computation, etc.

The publication system was checked internally within the DCD. As the various steps were felt to be correct, test data were delivered to the subject-matter divisions' analysts for review. Since the various reports required different inputs and steps, the checkout products differed somewhat; this normally was agreed to in advance and a formal structure of transmittal and clearance was followed. Each distinct process was represented by its own set of test data; for example, if historical data were prepared by means of a special process, those would be checked out independently as well as part of the table-extraction process. Name files, control files or lists, and the like were similarly treated. The table-extraction and data-suppression processes were always checked; table extractions usually were verified with consecutively numbered test decks and then live data for one or two of the "test" States. For the reports published at levels higher than a State, the State data were made to represent the higher levels. Suppression was checked by preparing test decks that forced all the rules to be activated. The staff also reviewed "internal" files with "external" files to make certain that the suppression routines were working correctly. Table data were reviewed as HSP (high-speed printer) displays without stubs and boxheads, or as fully formatted table output from the COMp80 or VideoCOMp on microfiche, paper, or photographic negatives that could be "blown back" and photocopied. Standardized software allowed the computer to display tables, generate test decks, and, late in the process, accept standardized specifications keyed as input to a program that duplicated table-extraction steps and compared the results with the output from the table-preparation process. Various "compare" programs also were used to detect changes from one test to another.

Preparation of statistical tables—The Decennial Census Division (DCD) sent data tapes to the Printing Branch in the Publications Services Division (PSD) for transmittal to the Government Printing Office (GPO) for processing on the VideoCOMp 500 phototypesetter. Its output was a film negative of each page, ready for printing. The GPO returned the negatives and tapes to the Printing Branch, which stored the data tapes and sent the negatives to the control section of the Publications Planning and Graphics Branch. Here, a Dylux proof print was made from each negative; these prints then were photocopied on paper and the copies were distributed to the subject-matter divisions for review. After the tables had been checked for accuracy, corrections and revisions were consolidated onto master proof copies that were returned to PSD. Corrections and revisions were made either by cutting and stripping the negatives in PSD or by having DCD correct the data tape and rerunning it through the VideoCOMp system. After the subject-matter divisions had approved the corrected tables, the negatives were assembled with the appropriate text and other components in camera-copy form. The subject-matter divisions reviewed and cleared this package and sent it to the Printing Branch for release to the printer.

The VideoCOMP 500 phototypesetter—The GPO owned and operated this computer-controlled device. Formatted magnetic tape provided the input, and the output could be selected either as a positive print (photographic paper) or a negative (photographic film). In practice, one machine generally was loaded with film and the others with paper. Typeface families (fonts) were stored in the VideoCOMP 500 in digital form. A “frame” on the magnetic tape contained all the characters and control information for a page of output. Responding to the data on the input magnetic tape, the machine electronically selected the specified typeface, type size, and location of each character.

All the characters and rules for a page were displayed briefly on a high-resolution cathode-ray tube (CRT) screen. A roll of the photographic output material (either paper or film) was transported across the face of the CRT and stopped for exposure of each page. The cartridge containing the exposed material then was removed, placed in a separate processing unit, and developed. Pages were cut from the roll by an automatic slicer.

Use of Photographic negatives—For most of the 1980 census tables, photographic negatives were ordered from GPO. (Paper positives had to be ordered for the Puerto Rico

publications, though, because the diacritical marks used in Spanish were not available in the table-formatting software.)

Negatives, rather than paper output, of the tabular material were ordered to assure the highest possible printing quality. Had paper positives been used for printing, second-generation negatives and third-generation printing plates would have been required. These extra generations would have caused some loss of quality; more importantly, it would have created a dependence on the printing contractor to make good-quality negatives, which could have affected the printing quality of the census publications. Given the 6-point type used in the detailed tables, imprecise negatives would have produced illegible tables that would not have been detected until after the reports had been printed. There also was a tradeoff in costs: GPO charged \$1.38 per page for paper positives; the commercial printer would have charged \$1.00 to \$1.45 per page to make negatives from these, resulting in a final cost of \$2.38 to \$2.83, opposed to GPO’s flat charge of \$2.59 per page for VideoCOMP negatives. The GPO’s negatives were consistently of top quality, but even so, there were problems with some of the printing contractors’ work.



User Tapes

The process for user tapes was much the same as for printed reports. Some of the basic differences and similarities were as follows:

Standard conventions (essentially derived from comments on the 1970 tape products) were followed in preparing all tapes. This also was done for tables, but within the photocomposition system. Some of the tape conventions dealt with header and trailer labels, language, record and blocking sizes, fixed positions for geographic codes, name and suppression flags, fixed field sizes, tape density, and so forth.

Specifications were limited to those for data manipulation and suppression (often to avoid total suppression of a characteristic), and derived measures. Names appeared in the file, but were introduced in the summary process. Suppression keys were set in the summary process; physical suppression took place as the tapes were produced. Neither historical data nor footnotes, nor land area, etc., were carried. Control files were not needed, because all tabulated areas usually were prepared for tape. Depending on the file structure, additional specifications were needed to eliminate some zero data or completely suppressed records. Specifications also documented and described the user tape itself.

Program development and checkout paralleled that for printed reports (see above). Once in production, clearance of the printed reports was a signal to begin producing the user tapes. There was no formal clearance process for the tapes; a table review from the printed report produced from the tape was considered adequate for States other than the three "test" States.

Microfiche

The process for microfiche was much the same as for the printed reports and user tapes, with the following differences and similarities:

Standard conventions were followed, except that some specifications had to be added for eye-readable headers, other identification data, indexes, frames per fiche, character size,

fiche style, etc. The number of specifications required were the same as for user tapes, but with the addition of footnote requirements and specifications for eliminating data for certain areas and for describing the microfiche. Program development and checkout paralleled that for user tapes and printed tables, except that the microfiche (or blowbacks of them) and the required supporting data were reviewed together. Once in production, clearance of the printed reports also signaled microfiche production without further clearance. The National Technical Information Service (another Department of Commerce agency), which produced the fiche, carried out a quality-control program that monitored both production and duplication, and the Department of Commerce's Office of Publications staff visually reviewed the first and last fiche produced from a given summary tape once the fiche production had reached acceptable quality. DCD conducted a readability check of "hard" copies (blowbacks) of random fiche frames.

While there was similarity in the specifications required for the three basic output media, at least in number, there actually were three sets of common specifications. For example, a single suppression specification did not work for printed tables, tape, and microfiche, although the data they contained were suppressed identically in concept.

PRINTING AND PACKAGING CONTRACTS

Printing

The following contracts were established through the Government Printing Office (GPO) for the printed reports below:

Map Printing and Packaging²

The PHC80-1, *Block Statistics* map series (the reports were issued only on microfiche) had four different sizes of paper maps: 17"x22", 22"x34", 34"x48", and 42"x60". These were

²For discussion of maps, see p. 22 ff.

Contract number	Period	Report series
A474-S (single-award)	8-1-80 to 7-31-81 ¹	Preliminary and advance
C546-M (multiple-award)	11-1-81 to 12-31-81, reissued for 11-1-82 to 12-31-82 and 1-1-83 to 12-31-83 ²	Final (HC80-1-A, B; PC80-1-A, B, C, S; PHC80-3, 4, S2)
B126-M (multiple-award)	7-1-83 to 6-30-84 ³	PHC80-2
A195-S (single-award)	8-1-83 to 7-31-84	PC80-1-D

¹The Department of Commerce printed the few reports remaining after this time.

²Reports going to print after this date were published on GPO's existing contract C-265M.

³Approximately 20 percent of the PHC80-2 reports had been printed on GPO's existing contract A814-M prior to this award.

printed on one side only; all were folded to 8 1/2"x11" and inserted in a gusseted envelope. A contract (B515-M) on a multiple-award basis was established through the GPO for the period from November 1, 1981 through October 31, 1982 for printing the maps. A multiple-award contract (B514-M) was used to procure the envelopes, which were supplied to the contractor (contract B515-M) on a flow basis.

The PHC80-2, *Census Tracts*, series had five different sizes of paper maps: 11"x17", 17"x22", 22"x34", 34"x44", and 36"x48". All maps were printed on one side only, folded to 8 1/2"x11", and inserted into 9 1/2"x12 1/2" kraft envelopes. A single-award contract (B183-S) covered the period August 1, 1982 through July 31, 1983.

(The PHC80-1 and PHC80-2 maps were sold separately from their reports.)

Census Bureau personnel conducted periodic press inspections throughout the entire printing period. In the few instances where poor quality printing was detected, press inspections were intensified until standards were met.

Printing Costs and Pricing

The GPO determined the sales price for each printed report, fiche, and map that it sold, based on its production cost for a particular item. While the price for any given report was based primarily on the number of pages, the size of the press run, the amount paid on a particular contract at a particular time based on bid, and changes in GPO pricing policy all affected the final price. Thus, two reports of identical size in the same publication series might not carry the same price.

The Census Bureau paid the printing costs for all "official" copies, including those sent to census depository libraries. GPO "rode" the printing contract, i.e., it paid for printing and binding whatever number of copies it decided to sell, plus copies it furnished to Government depository libraries. If the GPO sold all its "sales" copies of a given report or map, it could elect to reprint the publication or declare the item out of stock. In the latter case, the Census Bureau might fill a customer's order from its own stock of "official" copies, but the money had to go to the Superintendent of Documents. In some cases, the GPO decided to discontinue sale of a given report or map and either discarded the remaining copies or offered them to the Census Bureau to sell, as above. Where the Census Bureau published a printed item that it was agreed GPO would not sell (but would contract for the printing), sales proceeds also were to go to the Superintendent of Documents.

SERIES DESCRIPTIONS

The 1980 census report series were organized into three major groups according to subject matter. The population census reports (PC) displayed results from population questions (for example, data on age, sex, race, Spanish origin, commuting, and employment). The housing census reports

(HC) focused on housing subjects (e.g., rent, value, fuels, facilities, and number of rooms). The PHC reports combined the results for both population and housing. Table B shows the topics covered in the 1980 census in the 50 States and the District of Columbia; for an item-by-item discussion, see chapter 12. Not all of these topics were covered in Puerto Rico and the outlying areas; for details, see chapter 11. Within most series, the reports were organized geographically, with one for the United States, each State, the District of Columbia, Puerto Rico, Guam, the Virgin Islands of the United States, American Samoa, the Northern Mariana Islands, and the Trust Territory of the Pacific Islands (excluding the Marianas). The geographic detail within each report for a State or statistically equivalent area usually would vary from the level of an SMSA (standard metropolitan statistical area) to urbanized areas, counties, places by size, and minor civil divisions (especially towns and townships in selected States). Other products were published by type of geographic area, such as blocks or census tracts by SMSA and by State (also Puerto Rico) for blocks or tracts outside SMSA's. (Table C shows this distribution.) Series PC80-2 and HC80-3 were published by subject.

Following are descriptions of the preliminary, advance, and final published reports for 1980 population and housing statistics. For the publication dates, number of pages, and price per copy for the individual reports in the principal final series, see appendix 8A.

The preliminary and advance reports for 1980 differed from their 1970 counterparts; in 1980, only two series presented population and housing data together. In 1970, there had been four series of preliminary reports—three for population and one for housing—and three advance series—two for population and one for housing.

Preliminary Reports

Preliminary reports were prepared from the population and housing counts sent in by the district offices when the field enumeration was completed. Preliminary counts were shown for 1980 and, for comparison purposes, the final 1970 counts for the same areas.

Series PHC80-P, *Preliminary Population and Housing Unit Counts*, presented the counts for each State, the District of Columbia, Puerto Rico, Guam, the Virgin Islands, American Samoa, and the United States. Preliminary counts for the Northern Mariana Islands and the remainder of the Trust Territory of the Pacific Islands were issued as press releases. The State reports included statistics for counties and county subdivisions, incorporated places, congressional districts, and SMSA's (standard metropolitan statistical areas). For SMSA's that had component parts in more than one State, data shown in the State report related only to that State's portion of the SMSA. The 56 reports ranged in size from 2 to 27 pages, and in price from \$0.35 to \$1 each, and were issued between November 1980 and February 1981.

Table B. 1980 Census Data

100-percent population items

- * Household relationship
 - Sex
 - Race
 - Age
 - Marital status
- * Spanish/Hispanic origin or descent

Sample population items

- School enrollment
- Education attainment
- State of foreign country of birth
- Citizenship and year of immigration
- ** Current language and English proficiency
- ** Ancestry
 - Place of residence 5 years ago
 - Activity 5 years ago
 - Veteran status and period of service
- * Presence of disability or handicap
 - Children ever born
 - Marital history
 - Employment status last week
 - Hours worked last week
 - Place of work
- ** Travel time to work
- * Means of transportation
- ** Persons in carpool
 - Year last worked
 - Industry
 - Occupation
 - Class of worker
- * Work in 1979 and weeks looking for work in 1979
- * Amount of income by source in 1979

Derived items (illustrative examples)

Families
Family type and size
Family income
Poverty status
Population density

100-percent housing items

- Number of housing units at address
- * Complete plumbing facilities
- Number of rooms in unit
- Tenure (whether the unit is owned or rented)
- * Condominium identification
- Value of home (for owner-occupied units and condominiums)
- Rent (for renter-occupied units)
- Vacant for rent, for sale, etc., and period of vacancy

Sample housing items

- Number of units in structure
- Stories in building and presence of elevator
- Year unit built
- * Year moved into this house
 - Source of water
 - Sewage disposal
 - Heating equipment
 - Fuels used for home heating, water heating, and cooking
- * Costs of utilities and fuels
 - Complete kitchen facilities
 - Number of bedrooms and bathrooms
 - Telephone
 - Air conditioning
- Number of automobiles
- ** Number of light trucks and vans
- ** Homeowner shelter costs for mortgage, real estate taxes, and hazard insurance

* Changed relative to 1970.

** New item for 1980.

Table C. Areas Summarized in Selected 1980 Reports

Areas	PHC80					PC80				HC80		
	-P	-V	-1	-2	-3	-1-A	-1-B	-1-C	-1-D	-1-A	-1-B	-2
U.S., regions, divisions ¹	X	X	-	-	-	X	X	X	X	X	X	² X
States	X	X	-	-	X	X	X	X	X	X	X	X
SCSA's	-	-	-	-	³ X	X	X	X	X	X	X	-
SMSA's	⁴ X	-	X	X	³ X	X	X	X	⁵ X	X	X	X
Urbanized areas	-	-	-	-	-	X	X	X	-	X	X	-
Counties:	X	X	⁶ X	⁷ X	X	X	X	X	-	X	X	-
Rural population by county	-	-	-	-	-	X	X	X	-	-	X	-
Farm population by county	-	-	-	-	-	-	-	X	-	-	X	-
Places (by population size):												
Under 1,000	⁸ X	⁸ X	⁹ X	-	⁸ X	X	-	-	-	-	-	-
1,000 to 2,500	⁸ X	⁸ X	⁹ X	-	⁸ X	X	X	-	-	X	-	-
2,500 to 10,000	⁸ X	⁸ X	⁹ X	-	⁸ X	X	X	X	-	X	X	-
10,000 to 50,000	⁸ X	⁸ X	⁹ X	X	⁸ X	X	X	X	-	X	X	-
50,000 and over	⁸ X	⁸ X	X	X	⁸ X	X	X	X	¹⁰ X	X	X	¹¹ X
County subdivisions:												
MCD's in 11 States ¹²	X	X	¹³ X	-	¹⁴ X	X	X	¹⁵ X	-	X	¹⁵ X	-
MCD's in 9 States ¹⁶	X	X	¹³ X	-	¹⁴ X	X	X	-	-	X	-	-
MCD's in 10 States and CCD's in 20 States	X	X	-	-	-	X	X	-	-	X	-	-
Census tracts	-	-	¹⁷ X	-	-	-	-	-	-	-	-	-
Block numbering areas	-	-	X	-	-	-	-	-	-	-	-	-
Blocks	-	-	X	-	-	-	-	-	-	-	-	-
Congressional districts ¹⁸	X	X	-	-	-	-	-	-	-	-	-	-
American Indian reservations/ Alaska Native villages	-	-	-	-	-	-	X	X	-	X	X	-

Note: **Bold** indicates issued only on microfiche.

- Means not applicable.

¹ Data are presented in separate U.S. Summary reports. ² No divisions in HC80-2, U.S. Summary report. ³ Only the part within a given State is in PHC80-P and PHC80-3. ⁴ Only those SMSA's defined before the census. ⁵ Only SMSA's with 250,000 or more inhabitants. ⁶ Includes only those counties containing blocked areas. ⁷ Includes only those counties which have census tracts. ⁸ Incorporated places only. Census designated places excluded. ⁹ Only places in which statistics are collected by block. ¹⁰ Also includes central cities, regardless of size in SMSA's with 250,000. ¹¹ Also includes central cities, regardless of size, in all SMSA's. ¹² States in the Northeast region plus MI and WI. ¹³ Only MCD's in which data are collected by block. ¹⁴ Only those MCD's with active general purpose governments. ¹⁵ Only towns/townships with 2,500 or more inhabitants. ¹⁶ IL, IN, KS, MN, MO, NV, ND, OH, and SD. ¹⁷ Only census tracts containing blocks. ¹⁸ Districts of the 97th Congress in PHC80-V. In PHC80-4, districts of the 98th Congress and, where redistricting has occurred, the 99th and 100th.

Advance Reports

Advance reports presented counts of the population by race and Spanish origin together with housing-unit counts, before these data were published in the final reports, where some of the figures were superseded.

Series PHC80-V, *Final Population and Housing Unit Counts*, reports covered the United States and its regions and divisions, States, the District of Columbia, Puerto Rico, Guam, the Virgin Islands, and American Samoa, congressional districts, counties, county subdivisions, and incorporated places. Counts for the Northern Mariana Islands and the remainder of the Trust Territory of the Pacific Islands were issued as press releases.

The 56 reports ranged in size from 6 to 60 pages, and in price from \$0.35 to \$1 each, and were issued in March and April 1981.

Final Reports

As noted on page 5, all but two of the printed series of final 1980 census data were issued in paperback reports (with appropriate maps), and no hardbound volumes were assembled as had been done for the 1970 and earlier censuses. Most reports for Puerto Rico were issued in Spanish as well as English.

Population—PC80-1, Volume 1, *Characteristics of the Population*, presented final population counts and statistics on population characteristics. It consisted of reports for the following 58 areas: The United States, each of the 50 States, the

District of Columbia, Puerto Rico, and the outlying areas—Guam, the Virgin Islands of the United States, American Samoa, the Northern Mariana Islands, and the remainder of the Trust Territory of the Pacific Islands. The volume consisted of four chapters for each area—A, B, C, and D. Chapters A and B displayed data collected on a complete-count basis, and chapters C and D contained estimates based on sample information, except for the outlying areas, where all data were collected on a complete-count basis.

Some population totals in chapters A and B differed from the earlier counts in the PHC80-V reports because corrections were made for errors (in geographic boundaries, allocations of population and housing units to enumeration districts, and the like) found after the latter had been issued. Chapters B, C, and D presented statistics by race and Spanish origin for areas (except Puerto Rico and the outlying areas, where race and Spanish origin were not asked) with a specified minimum number of the relevant population group.

The U.S. Summary reports offered statistics for the United States, regions, divisions, States, and selected areas below the State level. The State or statistically equivalent area reports (which included the District of Columbia, Puerto Rico, and the outlying areas) presented data for the area and its subdivisions.

Statistics for each of the 58 areas were issued in separate paperbound reports of chapters A, B, C, and D (or C and D combined) as detailed below.

PC80-1-A, Chapter A, *Number of Inhabitants*—Final counts were shown for the following areas or their equivalents: States, counties, county subdivisions, incorporated places and census designated places, SCSA's (standard consolidated statistical areas), SMSA's, and urbanized areas. Selected tables contained population counts by urban/rural and metropolitan/non-metropolitan residence and by size of place. Many tables included population counts from previous censuses. The reports ranged in size from 23 to 108 pages (the U.S. summary was 289 pages) and price from \$2.75 to \$6, and were issued between October 1981 and January 1983.

Series PC80-1-B, Chapter B, *General Population Characteristics*—Statistics on household relationship, age, race, Spanish origin, sex, and marital status were shown where applicable for the following areas or their equivalents: States, counties (by total and rural residence), county subdivisions, places of 1,000 or more inhabitants, SCSA's, SMSA's, urbanized areas, American Indian reservations, and Alaska Native villages. The 58 reports ranged in size from 38 to 814 pages, and in price from \$3.75 to \$13.00. They were issued between April 1982 and July 1983.

Series PC80-1-C, Chapter C, *General Social and Economic Characteristics*—Statistics were presented on nativity, State or country of birth, citizenship and year of immigration for the foreign-born population, language spoken at home and ability to speak English, ancestry, fertility, family composition, type of group quarters, marital history, residence in 1975, journey to work, school enrollment, year of school completed, disability,

veteran status, labor force status, occupation, industry, class of worker, labor force status in 1979, income in 1979, and poverty status in 1979. Many of the variables were cross-tabulated.

Each subject was shown for some or all of the following areas or their equivalents: States, counties (by rural and rural-farm residence), places of 2,500 or more inhabitants, SCSA's, SMSA's, urbanized areas, American Indian reservations, and Alaska Native villages. The 54 reports ranged in size from 152 pages to 1,542 pages (the latter in two sections) and in price from \$4.75 to \$14. They were issued between July 1983 and September 1984.

Series PC80-1-D, Chapter D, *Detailed Population Characteristics*—Statistics on most of the subjects covered in the PC80-1-C report presented cross-classifications of final 1980 sample data on social and economic characteristics in 58 detailed tables drawn from STF 5. Data on most of the subjects covered in PC80-1-C were shown in considerably greater detail and cross-classified by age, race, Spanish origin, and other characteristics. Each subject was shown for the State, some subjects for rural residence at the State level, most for SMSA's of 250,000 or more population, and a few for central cities of these SMSA's. There also were reports for Puerto Rico and the Virgin Islands (without race or Spanish origin). The 54 reports ranged in size from 176 pages to 2,314 pages (the latter in four sections) and in price from \$5.50 to \$31. They were issued between October 1983 and January 1985.

Series PC80-1-C/D, *Detailed Population Characteristics*, combined elements of PC80-1-C and PC80-1-D for Guam, American Samoa, the Northern Mariana Islands, and the remainder of the Trust Territory of the Pacific Islands. The four reports ranged in size between 76 and 320 pages and in price between \$3 and \$9. They were issued in December 1984 and January 1985.

Series PC80-2, Volume 2, *Subject Reports*—Each of the reports focused on a particular subject and provided highly detailed distributions and cross-classifications on national, regional, and divisional levels. A few reports showed statistics for States, SMSA's, large cities, or American Indian reservations (and certain counties that contain the historic areas of Oklahoma). Separate reports were issued on such subjects as racial groups (Asians and Pacific Islanders; and on American Indians, Eskimos, and Aleuts from the supplementary questionnaire), rural and farm-related population (excluding urbanized areas), persons in institutions, families, marital status, migration, occupation by industry, place of work/journey to work, income, poverty status, and other topics. The reports ranged in size from 152 to over 3,000 pages (the latter in three sections), and in price from \$5.50 to \$72, and were issued beginning in June 1984. The report on occupation by industry (No. 7A) was also released on tape (November 1986).

Series PC80-S1, *Supplementary Reports*, comprised about 20 reports that presented various types of population data, such as special compilations that could not be accommodated in the regular final reports, and selected tables from large reports. This permitted distribution of the particular figures in

an inexpensive format; most reports had less than 100 pages and sold in the \$2-\$4.50 price range. The largest exception was a report on the population and land area of urbanized areas for the United States and Puerto Rico—478 pages, \$12. Other topics in the series included data on the Spanish-origin population and racial groups, congressional district profiles, gross migration for counties from 1975 to 1980, occupation by sex, population and housing counts for American Indian areas and Alaska Native villages, and population distributions for Asian and Pacific Islander detail groups. The reports were issued beginning in 1981. Similar supplementary reports were issued in the PHC (population and housing) series; see p. 8-22 below.

Housing—Series HC80-1, Volume 1, *Characteristics of Housing Units*—This volume presented final housing-unit counts and statistics on housing characteristics. It consisted of reports for the following 58 areas: The United States, each of the 50 States, the District of Columbia, Puerto Rico, and the outlying areas—Guam, the Virgin Islands of the United States, American Samoa, and the Northern Mariana Islands and the remainder of the Trust Territory of the Pacific Islands. The volume consisted of two chapters for each area, A and B. Chapter A offered data collected on a complete-count basis, and chapter B presented estimates based on sample information, except for the outlying areas, where all data were collected on a complete-count basis.

Some housing totals in this report differed from the counts presented earlier in the PHC80-V reports because corrections were made for errors (in geography, allocations to enumeration districts, and the like) found after the latter were issued. Both chapters presented statistics by race and Spanish origin (where applicable) for areas with a minimum number of the specified population group.

The U.S. Summary reports offered data for the United States, regions, divisions, States, American Indian reservations, Alaska Native villages, and other selected areas below the State level. The State or statistically equivalent area reports (which included the District of Columbia, Puerto Rico, and the outlying areas) presented tabulations for the State or statistically equivalent area and its subdivisions.

Statistics for each of the 58 areas were issued in separate paperbound reports of chapters A and B, as follows.

Series HC80-1-A, Chapter A, *General Housing Characteristics*—Statistics on units at address, tenure, condominium status, number of rooms, persons per room, plumbing facilities, value, contract rent, and vacancy status were shown for total housing units and for those with householders of specified race and Spanish-origin groups for some or all of the following areas or their equivalents: States, counties, county subdivisions, places of 1,000 or more inhabitants, SCSA's, SMSA's, urbanized areas, American Indian reservations, and Alaska Native villages. Selected tables contained housing characteristics by urban and rural residence. The 58 reports ranged in size

from 38 to 870 pages, and in price from \$3.75 to \$14, and were issued between June 1982 and August 1983. (The Spanish-language version of the Puerto Rico report was issued in March 1984.)

Series HC80-1-B, Chapter B, *Detailed Housing Characteristics*—Statistics on units in structure, year moved into unit, year structure built, heating equipment, fuels, air conditioning, source of water, sewage disposal, gross rent, and selected monthly ownership costs, where applicable, were shown for some or all of the following areas or their equivalents: States, counties, places of 2,500 or more inhabitants, SCSA's, SMSA's, urbanized areas, American Indian reservations, and Alaska Native villages. Selected tables covered housing characteristics for rural and rural-farm residence at the State and county level. Some subjects included in the HC80-1-A series also appeared in these reports for rural and rural-farm housing units. The 58 reports ranged in size from 36 to 609 pages and in price from \$2.25 to \$8.50, and were issued between July 1983 and July 1984. The Puerto Rico report was published in separate English and Spanish versions.

Series HC80-2, Volume 2, *Metropolitan Housing Characteristics*—This volume presented statistics on most of the 1980 housing census subjects in considerable detail and cross-classification. Most statistics were by race and Spanish origin, where applicable, for areas with a large number or percentage of the specified population group. Data were shown for States or equivalent areas, SMSA's and their central cities, and other cities of 50,000 or more inhabitants. There was one report for each SMSA and one for each State and Puerto Rico. The set included a U.S. summary report showing these statistics for the United States and regions. The 380 reports ranged in size from 67 to 1,108 pages (the latter in two sections) and in price from \$2.50 to \$18. The reports were issued between October 1983 and October 1984.

Series HC80-3, Volume 3, *Subject Reports*, consisted of six reports (subsequently reduced to five), each concentrating on a particular topic (see app. 8A). They provided detailed information and cross-relationship, generally on national, regional, and State levels. The first report was issued in October 1984.

Series HC80-4, Volume 4, *Components of Inventory Change*, consisted of two reports offering data derived from a sample survey, in the fall of 1980, on the source of the 1980 housing inventory and the disposition of the 1973 inventory. Characteristics of housing units as of 1980 were shown for 1980 units that existed in 1973, as well as on newly constructed units, conversions, mergers that still existed in 1980, and other additions to the housing inventory. Characteristics as of 1973 were shown for units lost by 1980 through demolition, disaster, merger, mobile homes moved out, and other losses. Data appeared for the United States and regions in report I. Report II had two parts—A, data for that group of SMSA's (not individually identified) with populations of 1 million or more at the time of the 1970 census, and B, statistics for that group of SMSA's with

populations of less than 1 million at the time of the 1970 census. The reports (see app. 8A) were issued in October 1983 and January 1984.

Series HC80-5, Volume 5, *Residential Finance*, consisted of one report presenting statistics on the financing of privately owned nonfarm homeowner and rental and vacant properties, including characteristics of the mortgage, property, and property owner. The statistics were based on a sample survey conducted in the spring and summer of 1981. Data were shown for the United States and regions, by inside and outside SMSA's and by central cities. The single report (see app. 8A) was issued in January 1984.

Series HC80-S1, *Supplementary Reports*, consisted of two brief reports that provided statistics from the 1980 Census of Housing on general characteristics of housing units for the 50 States, the District of Columbia, counties, and independent cities. The reports (see app. 8A) were issued in October 1981 and June 1983.

Population and housing—Series PHC80-1, *Block Statistics*—These reports, which were issued on microfiche rather than in print form, presented population and housing-unit totals and statistics on selected characteristics based on complete-count tabulations. Data were shown for blocks in urbanized areas and adjacent territory, for blocks in incorporated places of 10,000 or more inhabitants, and for blocks in areas for which State or local governments contracted with the Census Bureau to provide block statistics.

The set of reports consisted of 374 sets of microfiche and included a report for each SMSA's block-numbered areas, and a report for each State and for Puerto Rico, for the block-numbered areas outside SMSA's. In addition to microfiche, there were printed detailed maps showing the blocks covered by the particular report, as well as a U.S. summary that was an index to the set. The U.S. summary (1) was issued in March 1983 as a paperback report that included 245 county subdivision maps illustrating the block-numbered areas' coverage in each State, and as a microfiche report without the maps. The reports ranged in size from 28 to 882 pages; price was based on the number of fiche in one order, but the entire set of 567 fiche could be purchased for \$226.80. The block-numbered maps were printed on paper as well as on fiche and were sold separately for each report. The reports (except the U.S. summary) and maps were issued between February and December 1982.

Series PHC80-2, *Census Tracts*—These were complete-count and sample statistics for most of the population and housing subjects included in the 1980 census for census tracts (statistical subdivisions of counties, averaging 4,000 inhabitants) in SMSA's and other tracted areas. Most data were by race and Spanish origin, where applicable, for areas with a specific minimum number of persons in the relevant population group.

There was one report for each SMSA, as well as one for Puerto Rico and each State that had census tracts outside SMSA's. In addition, maps showed the boundaries and identification numbers of census tracts in the county. A U.S. summary served as an index (without maps) to the set. The 373 reports—some with several parts—ranged in size from 71 to 888 pages (one of four New York, NY SMSA sections) and in price from \$4.75 to \$23 (for a four-section set). They were issued between July and November 1983.

Series PHC80-3, *Summary Characteristics of Governmental Units and Standard Metropolitan Statistical Areas*, displayed statistics on total population and on complete-count and sample population characteristics such as age, race, education, disability, ability to speak English, labor force, and income, and on total housing units and housing characteristics such as value, age of structure, and rent. These statistics were shown where applicable for the following areas or their equivalents: States, SMSA's, counties, county subdivisions (those which were functioning general-purpose local governments), and incorporated places. There was one report for each State, the District of Columbia, and Puerto Rico; there was no U.S. summary. Report size ranged from 38 to 246 pages and in price from \$4.50 to \$7.50. Most reports in the series were issued between October and December 1982; the Puerto Rico report appeared in June 1983.

Series PHC80-4, *Congressional Districts of the 98th Congress*, presented selected 1980 complete-count and sample population and housing data that reflected redistricting for the 1982 elections, together with maps showing the boundaries of each district. One report was issued for each of the 50 States and the District of Columbia. They ranged in size from 57 to 157 pages and in price from \$4.75 to \$6.50 each, and were released between March and May 1983. Another series, carrying the same PHC80-4 designation but titled *Congressional Districts of the 99th Congress*, covered the same items, but with data from STF's (summary tape files) 1H and 3H reflecting changes in 10 States where boundaries were redefined for the 99th Congress (1985-86). The reports (see app. 8A) had the same report numbers as their 98th Congress counterparts; they ranged in size from 57 to 164 pages and in price from \$2.25 to \$5.50. They were issued between May 1984 and March 1985. A third series report, *Congressional Districts of the 100th Congress*, Ohio (No. 37)—the only State to redistrict for this Congress—was issued in May 1986.

The 100-percent data contained in the PHC80-2, -3, and -4 series reports were tabulated at an earlier stage of processing than the sample data; the 100-percent tabulations then were held so that both could be released together in complete reports. To allow users earlier access to the 100-percent figures, the Bureau made the data available on photocopies of the prepared tables, at cost.

The PHC80-E series, *Population and Housing Evaluation Reports*, offered the results of the extensive evaluation program conducted as an integral part of the 1980 census, describing such matters as completeness of enumeration and quality of the data on characteristics. For the various components, see chapter 9. Four reports were issued; the first, on the coverage item, appeared in August 1985; the second, on the Content Reinterview Study, in October 1986; the third, on 1980 coverage improvement programs, in February 1987; and the fourth, on the population coverage itself, in February 1988.

Series PHC80-R was assigned to several general and reference reports pertinent to the 1980 census. They included the following:

1. The *Users' Guide*, published in 1982-83, covered subject content, procedures, geography, statistical products, limitations of the data, sources of user assistance, notes on data use, a glossary of terms, and guides for locating data in reports and tape files. The guide was issued in looseleaf form and sold in parts (R1-A, B, etc.) as they were printed.
2. This *History*, issued in parts (each containing one or more chapters) beginning in 1986, described in detail all phases of the 1980 census, from the earliest planning through all stages to the dissemination of data and evaluation of results. It included detailed discussion of 1980 census questions and their use in previous decennial censuses.
3. *Alphabetical Index of Industries and Occupations* was issued in a first edition in 1980 and in a final edition with the same name and similar scope in 1983. This report was developed primarily for use in classifying responses to the questions on the kind of business (industry) and kind of work (occupation) in which the respondent was engaged. The index, which listed approximately 20,000 industry and 29,000 occupation titles in alphabetical order, also was issued on tape.
4. *Classified Index of Industries and Occupations* was issued in a first edition in 1980 and in a final edition in 1982. This report defined the industrial and occupational classification systems adopted for the 1980 Census of Population. It presented the individual titles that constituted each of the 231 industry and 503 occupation categories in the classification systems. The individual titles were the same as those shown in the *Alphabetical Index* and arranged by category. The 1980 occupation classification reflected the new U.S. standard occupational classification (SOC). As in the past, the 1980 industry classification followed the standard industrial classification (SIC).
5. *Geographic Identification Code Scheme*, issued in 1983, identified the name and the related geographic code(s) for each region, division, State, county, minor civil division,

census county division, place, SCSA, SMSA, urbanized area, American Indian reservation, and Alaska Native village for which the Census Bureau tabulated data from the 1980 census.

There were two other reference products, published in paper form, that were not assigned to the "R" series:

Census Tract Street Indexes were computer printouts covering the GBF/DIME (geographic base file) portions of the 278 SMSA's existing in 1978. Each index provided an alphabetic listing of street names and address ranges within census tracts, by county and ZIP Code, thus allowing users such as financial institutions to assign tract and ZIP Codes by hand. Local agencies compiled the GBF/DIME files in 1977-78, and the Bureau developed the indexes from them in 1977-78, for use in coding place-of-work responses on the 1980 census questionnaires. The printouts were copied onto microfiche for sale to users beginning in May 1980. Customers could order either fiche or paper "blowbacks" from the fiche.

The *Congressional District Atlas* reflecting 1980 census data was published in 1983 for the 98th Congress (1983-84), in 1985 for the 99th Congress (1985-86), and the 100th (1987-88) in 1987. These reports presented State and inset maps showing the boundaries of the congressional districts for the Congresses in question and listings identifying the districts in which counties and incorporated municipalities within each multidistrict State were located. The boundaries shown were those specified in laws and/or court orders based on 1980 census results or other considerations.

Series PHC80-SP, *Special Reports*, included the *Neighborhood Statistics Program* (NSP), which the Bureau developed in 1982 to assist localities asking for statistics covering recognized subareas, generally called "neighborhoods." Participation in the NSP was on a voluntary basis and was restricted to areas with census blocks. (See also app. 3A in ch. 3.) The neighborhood publication area (NPA) was defined in terms of aggregations of census blocks by a local contact person designated by the highest elected official in each jurisdiction in the NSP. The NSP report series consisted of individual reports for each NPA. Each NSP report consisted of a separate text booklet for each State, the District of Columbia, and Puerto Rico, followed by 11 detailed data tables of complete-count and sample population and housing statistics, a narrative profile for each neighborhood, and a geographic definition (such as certain blocks or census tracts) of the neighborhoods. Approximately 75,000 pages were published on microfiche for 1,252 jurisdictions (27,848 neighborhoods) in the States and the District of Columbia, plus 40 jurisdictions and 439 neighborhoods in Puerto Rico, between the summer of 1983 and the fall of 1984. Users could also order paper copies of the fiche.

Series PHC80-S, *Supplementary Reports*, was designed as a vehicle for miscellaneous topics. Some reports provided advance release of data published elsewhere and others, unique data. (See also PC80-S1 reports on p. 8–18 above.)

S1-1, *Provisional Estimates of Social, Economic, and Housing Characteristics* offered provisional estimates based on sample data collected in the 1980 census. Data on social, economic, and housing characteristics were shown for the United States as a whole, each State, the District of Columbia, and SMSA's of 1 million or more inhabitants. These statistics were based on a special subsample of the full census sample. The subsample, which represented about 1.6 percent of the total population, was developed to provide users with initial sample data on characteristics of the population and housing units for the Nation and large areas. The 149-page report was issued in April 1982; the price was \$6.50.

S2, *Advance Estimates of Social, Economic, and Housing Characteristics*, contained advance sample data from the 1980 census, including such social and economic characteristics of the population as education, migration, labor force, and income, as well as housing characteristics such as structural information, mortgage, and gross rent. Each report presented population and housing characteristics for the State, its counties, and places of 25,000 or more inhabitants. Selected data based on the full census sample were shown for four race groups (White; Black; American Indian, Eskimo, and Aleut; and Asian and Pacific Islander) as well as for persons of Spanish origin. The 51 reports, one for each State and the District of Columbia, ranged in size from 47 to 332 pages and in price from \$4.75 to \$9. They were issued between September 1982 and April 1983.

DECENNIAL PUBLICATION MAPS

Introduction

The mapping services that supported Bureau of the Census operations can be grouped into three major categories: (1) Internal maps produced for use in various activities such as field enumeration, local review, and statistical-area delineation; (2) publication maps that appear in or accompany printed reports, microfiche, summary tape files, and other forms of product releases; and (3) special-request maps, produced on a cost-reimbursable basis, in support of other Federal agency programs, commercial requests, and so forth. This section addresses only the publication map products—the maps printed as part of reports and those issued as thematic wall maps, both of which were reproduced in large quantities using printing plates generated from negatives. (For a discussion of (1), see ch. 3; (3) is not within the scope of this history.)

The 1980 publication maps program's objective was to provide the most legible and accurate maps possible, packaged and distributed in such a manner as to offer the public the most convenient and inexpensive access to them. The maps were intended to satisfy the users' varied demands, but also had to be products that could be produced within the constraints of available resources. The Bureau predicated both the final design and content of each map series and the several types of map series it produced primarily on the consensus of user comments and suggestions, which it gleaned from meetings of professional and advisory groups, and correspondence resulting from public attendance at 1980 census preparation seminars and data-user conferences in which the staff participated.

The program, centered around the 1980 census maps, produced many copies of each of over 32,000 mapsheets. While one of the purposes was to provide a geographic framework and index for data collection (see (1) above), the program had to do the same for data dissemination. Therefore, the Bureau developed geographic coverage of the entire United States, Puerto Rico, and the outlying areas in several different formats. This provided census-data users with a choice of maps at various levels of detail to accompany the tabulations.

The publication map series produced for the 1980 census was divided into three generic categories based on the series' purpose—the 1980 census maps, summary reference outline maps, and statistical/thematic maps. These, as appropriate, showed boundaries as of January 1, 1980 (the official date for the boundaries recognized in the census). The maps also were available separately from the reports in or with which they were published, through direct purchase from the Census Bureau, at cost of reproduction, on paper, mylar, cronaflex, or 105mm microfiche.

To improve the 1980 census map products over their predecessors, the Bureau made major methodological changes between 1970 and 1980. The maps for the 1970 census (except for the Metropolitan Map Series (MMS)) and earlier reports were generally pen-and-ink products in which many types of information were drawn or lettered on a single sheet of paper. This technique was the commonly accepted method for map production until the 1960's, and the original staff in the Data Preparation Division's Geography Branch was proficient in applying it. To prepare the MMS for 1970, however, employees in the branch were trained in the more modern scribing and punch-registered negative-artwork overlay methodologies, which, because they were easier to master, produced a more consistent product, were not subject to the "mess" of ink, and, in the case of scribed products, eliminated at least one photographic step. In addition, the overlay technique allowed for greater flexibility in producing customized final products. Over time, the staff trained in pen-and-ink drafting methods dwindled through attrition and the current staff no longer could handle the volume of labor required to revise the old artwork or prepare new pen-and-ink artwork.

Two major criticisms of the map products in the 1970 reports were that the lettering was too small for most readers and that the map legends generally were incomplete, leading to confusion on the part of many data users. Furthermore, new Federal guidelines for map products required that metric values as well as English values be shown on map bar scales.

For all the above reasons, totally new artwork was prepared for the 1980 census reports. The decision to adopt the negative-overlay artwork system for all publication maps increased the amount of work required for the 1980 series, and thus the cost, but it nevertheless was more efficient. Basically, the system involved producing a base map and a series of artwork overlays in negative and positive form. The base was an engraved image in an emulsion-coated polyester film. Detail on the base comprised those features common to all maps produced. In the context of the Census Bureau's mapping program, the base map showed physical features, both natural and artificial. The overlays were created initially in either positive or negative form in registry with the base. Each overlay contained one or more categorized types of specific information to be shown in conjunction with the base, such as the names of the base features and the boundaries, names, and numeric identifiers of appropriate administrative and census statistical areas.

The negative-overlay artwork system for 1980, in contrast with 1970, provided greater flexibility in fulfilling the census mapping requirements, a more consistent product of better quality that was dimensionally stable, a longer life, and easier revision than products drafted in ink. It also afforded the Census Bureau the versatility of using the same artwork to produce maps of different appearance, either by changing the overlay tint screens, by adding or subtracting overlays, or by using the same base to prepare an entirely different map. The new artwork for 1980 was in a form that could be updated easily to produce publication maps for the 1990 census reports.

The Bureau encountered major problems throughout the publication map-making process that resulted in schedule slippage, high staffing levels, and budget overruns. Contributing factors ran the whole gamut from the initial planning to preparing the printer-ready copy. Since virtually all the 1980 publication map series were underway at the same time, there was great competition for staff resources, materials, and photographic and reproduction services to support artwork preparation. In addition, if one map series was used as a base for another series, work on the dependent map series had to be delayed until the parent map was available. For example, the county subdivision map series served as the base for the State SCSA/SMSA outline map series as well as the one that provided the State index maps for block-numbered areas.

At the peak of map production, staffing levels reached about 1,200 persons housed in six different buildings. As a consequence, workflow and material handling also became problems. Controls of map-preparation resource materials were inadequate; for example, there was no organized central area to receive and store the materials when they arrived. The materials often were kept in several different buildings and with different units within the same building. Project controls were insufficient, both in terms of monitoring the workflow and providing data for progress reporting. This situation was exacerbated by various priorities for releasing the data by State, depending on the report series, so that the map-preparation schedule had to be juggled to coincide with the availability of the tabulated data for publication.

Despite the difficulties faced in the mapmaking process, printer-ready copy was ready in time for inclusion in the various published report series. Except for the first two dozen State reports issued in the PC80-1-A series, the delays encountered in map production had virtually no adverse effect on the issuance of the report series. In fact, the census tract outline map series, which was printed separately from the data reports, appeared well ahead of the published tables.

Table D. Chart and Map Use in 1980 Census Final Reports, by Series

Charts				Maps			
Color		Black and white		Color		Black and white	
PC80-1-A1 PC80-1-B1 PC80-1-C1 HC80-1-A1 HC80-1-B1	U.S. summary only	PC80-1-A PC80-1-D1 HC80-1-A HC80-5	State reports U.S. summary State reports	PC80-1-A1 PC80-1-B1 PC80-1-C1 HC80-1-A1 HC80-1-B1	U.S. summary only	PC80-1-A PC80-1-B PC80-1-C PC80-1-D HC80-1-A HC80-1-B HC80-2 HC80-3 HC80-4 HC80-5 PHC80-1 PHC80-2	State reports State reports State reports State reports and U.S. summary State reports

1980 Census Maps

These maps were the basis for all other maps the Census Bureau produced, because they were the tools used in the original data-collection processes. They depicted no data per se, but showed the names and boundaries of the geographic areas to which users could relate the statistics. The 1980 census map coverage was divided into five map series that, together, covered the entire United States, Puerto Rico, and the outlying areas. These five were the county, metropolitan/vicinity (MMS/VMS), place, place-and-vicinity, and American Indian reservation map series.

All five types of 1980 census maps fell into one of two categories, based on the level of the geographic hierarchy portrayed on each map—the block level and the enumeration district (ED) level. Maps that showed the census blocks (i.e., those for block-numbered areas) covered approximately 7 percent of the total U.S. land area but almost 78 percent of the total population. Between February 1981 and March 1982, the Census Bureau issued these maps in a printed format to accompany the PHC80-1 *Block Statistics* report series (see p. 8-20 above). The Government Printing Office (GPO) published and sold the individual reports and their corresponding maps separately rather than in a single, combined version as they had been in previous censuses. The GPO also reproduced the maps on 105mm microfiche for the Government depository libraries.

For the remainder of the United States (as well as for Puerto Rico and the outlying areas)—the nonblock-numbered areas—the maps displayed the geographic hierarchy down to the ED level. Generally, this coverage encompassed the country's less populated areas. These maps were not included in any publication report series, but the Bureau provided copies at the cost of reproduction. Table E shows the distribution of individual 1980 census mapsheets by block-numbered (published) and nonblock-numbered (unpublished) areas within each map series.

A brief description of each map series follows. The block statistics reports also included two index-map series: the State index to block-numbered areas and the SMSA index to block-numbered maps. These two indexes were summary reference maps (discussed below), but are mentioned here because of their relationship to the PHC80-1 *Block Statistics* maps and reports.

Table E. 1980 Census Maps: Block-Numbered and Nonblock-Numbered Mapsheets by Series

Series	Block-numbered	Nonblock-numbered	Total
Total.....	11,383	20,432	31,815
County.....	517	4,779	5,296
MMS/VMS.....	8,112	2,768	10,880
Place.....	1,465	10,820	12,285
Place-and-vicinity.....	1,289	1,965	3,254
American Indian reservation.....	0	100	100

County map series—This series was the primary component of 1980 census map coverage. Theoretically, a complete set of these mapsheets showed the census's overall geographic framework for the Nation, Puerto Rico, and the outlying areas. Most mapsheets in this series were at a scale of 1 inch = 1 mile (1:63,360). They were created by superimposing census boundaries and names over a base map of each county (or statistically equivalent area). Because the maps usually were supplied by State transportation or highway departments, map format varied; the Census Bureau therefore deleted extraneous information that enumerators might have found irrelevant or confusing. The symbolization and typographic systems for information added to the map base used the standard 1980 census conventions. (Larger scales and use of standard census symbology and type were improvements from the 1970 version.) County mapsheets adequately showed detail in rural areas, but the scale was not sufficiently large for densely settled villages, cities, urbanized areas, and the like. For these, the Census Bureau developed other map series; the portions of counties where such alternate coverage was provided were shaded on the county mapsheets, and those map series were regarded as insets to the county maps.

Metropolitan map series and vicinity map series (MMS/VMS)—The Census Bureau devised its own series of maps—the MMS—for the core (developed) portions of SMSA's in order to provide uniform coverage of the more densely settled areas of the counties involved. Similar maps for highly populated nonmetropolitan areas were identified as the VMS. In the few instances where these sheets entirely covered a county, no separate county mapsheet was issued. The political and statistical information on these maps included all components of the basic census geographic hierarchy. The political information portrayed included boundaries and names for international, State, county, minor civil division (MCD) and subdivision (sub-MCD), incorporated place, Alaska Native village, and American Indian reservation areas. Statistical areas represented on these maps included urbanized area, census county division (CCD), unorganized territory, census designated place (CDP), census tract or block-numbering area (BNA), enumeration district (ED) (where appropriate), and block (where appropriate). The predominant scale for the MMS/VMS was 1 inch = 1,600 feet (1:19,200). In selected areas with very dense development, some mapsheets were produced at a scale of 1 inch = 800 feet (1:9,600); conversely, some sparsely settled areas were mapped at a scale of 1 inch = 3,200 feet (1:38,400) or even 1 inch = 6,400 feet (1:76,800). Within the overall framework of census geography, the MMS and VMS were considered to be detailed insets to the county map coverage.

The Census Bureau designed and produced all maps in the MMS/VMS series from base information depicted on U.S. Geological Survey (USGS) quadrangle maps, and updated them from a variety of source material obtained from State highway departments, local planning agencies, and the like. Symbolization for these two series was standardized. Varying

line symbols and screen values provided the symbolization mode for these predominantly black-and-white maps. A standardized typographic system was used for all geographic information. A typical mapsheet covered about 30 square miles and measured 14" x 24".

There were three major changes in the series since the 1970 census: A larger scale and a half-quad format were used, and several layers of boundary information deemed not critical for these maps were deleted, thereby producing a less cluttered, easier-to-read map. For selected mapsheets within 19 SMSA's with the most complex legal boundaries, color tints were added to aid the map reader in distinguishing the intricate corporate limits.

Place map series—The Census Bureau developed this series for places not covered by MMS or VMS sheets, and where most of the development was contained within the limits of an incorporated place or the boundaries established for a census designated place. As with the MMS and VMS sheets, place maps were considered to be insets to the county mapsheets. Most place mapsheets were created by superimposing census boundaries and names over base maps (supplied by local or State governments) after extraneous information had been deleted. In selected cases, the Census Bureau drew its own base map, using the local maps only as source material.

The variety of base maps for this series necessarily implied a variety of scales and formats, depending on the source agency. The base-map symbolization also varied from map to map. All census information was symbolized using the standard 1980 census map typographic and symbolization systems. Major differences between the 1970 and 1980 versions included the use of standard census symbol and type conventions, and a greater proportion of Census Bureau-prepared base maps.

Place-and-vicinity map series—This series was basically identical to the place map series except for minor distinctions in coverage. It was created for places that had fairly dense development outside corporate boundaries and were not covered by the MMS/VMS. This category also included incorporated places that contained enclaves of unincorporated territory within their outer perimeters, and mapsheets that showed two or more adjacent places on a single map. In all other respects, place-and-vicinity mapsheets had the same characteristics as place mapsheets, and were considered to be insets to the county mapsheets.

American Indian reservation map series—For 20 American Indian reservations outside MMS/VMS coverage, the Census Bureau developed special maps to better identify roads and trails in these sparsely populated areas. The maps showed the 1980 census boundaries for counties, MCD's/CCD's, places, ED's, and, of course, Indian reservations. Approximately 100 mapsheets were produced on paper and mylar for the areas covered. The Bureau of Indian Affairs' *Atlas of Indian Reservations* was the map base for most of the 20 reservations, but where it was known to be outdated, aerial photographs were

used as (or supplemented) the map base. The reservation maps, which were very similar to the county mapsheets in format and content, were insets to the county mapsheets. The major difference was that they exclusively covered only the 20 American Indian reservations, and did not depict any other geographic areas and their boundaries.

Summary Reference Outline Maps

The second major category of publication maps comprised the summary reference outline maps, of which there were nine different types. These maps did not show any data in and of themselves, but assisted users who worked with census tabulations in locating the legal and statistical areas to which the data referred. Unlike the 1980 census maps, which contained all levels of the census geographical hierarchy and depicted street and road patterns in considerable detail, the summary reference maps were generalized. Each of these outline map series focused on a geographic entity based on the specific level of geographic information represented by the statistics in the particular published report series. One map series focused on urbanized areas, another on census tracts, a third on SMSA's, and so forth. As the title implies, their purpose was to portray the specific areas for which the Census Bureau tabulated information from the decennial census. They generally were produced in black and white, at much smaller scales than the 1980 census maps, to accompany the major report series; however, many of these maps also were available separately from the publications in which they were originally included. Many of the map series appeared in more than one decennial publication; in addition, these publications often required more than one map series. All the reference outline maps were prepared between March 1980 and September 1982, timed to coincide with the publication schedule of the reports for which they were prepared. The series that supported the 1980 publication program are summarized below.

U.S. county outline map—This was a single-sheet map, 35" x 42", that displayed the January 1, 1980 boundaries for all States, the District of Columbia, Puerto Rico, and the outlying areas. It showed the boundaries and names of all counties and statistically equivalent areas, and was the base map for the thematic GE-50 map series (see below). It was issued in two versions; one used black ink only, and the other, black ink for State boundaries and nonphotographic blue ink for county boundaries and names. Both versions were issued at a scale of 1:5,000,000.

SCSA/SMSA outline map series—This series of State maps showed county names and boundaries, the names and boundaries of SMSA's and SCSA's, and the names and locations of the State capitals, all places with a population of 25,000 or more, and SMSA central cities with fewer than 25,000 inhabitants. This series was prepared by reducing the county subdivision base (see below) and producing an entirely new set of artwork showing selected categories of information.

In final form, each State and statistically equivalent area was presented on a single page showing the SCSA/SMSA boundaries and names by solid and screened symbology, respectively. The maps included international, State, and county boundaries and names, plus the locations and names of the places noted above. Places were symbolized with four different dot symbols representing four population classes, plus the State capital if it contained fewer than 25,000 inhabitants. The maps displayed adjacent State names and referencing ticks for adjacent county boundaries located in adjacent States. The scale for each map was based entirely on the space available in the single-page format. The addition of boundaries, all places of 25,000 or more inhabitants, and adjacent State names and State and county boundary ticks constituted the major changes for this map series since the 1970 census.

There were 58 page-size maps in this series, published in several report series: PC80-1-A, PC80-1-B, PC80-1-C, HC80-1-A, HC80-1-B, and PHC80-3.

U.S. SCSA/SMSA outline map—This was a single map showing the boundaries of SCSA's, SMSA's, States, and counties for the United States and Puerto Rico. Only the name of each SCSA and SMSA was shown; names of States and counties did not appear. This map was included in all reports containing SMSA data: PC80-1-A, PC80-1-B, PC80-1-C, PC80-1-D, HC80-1-A, HC80-1-B, and HC80-5.

State index to block-numbered-areas map series—This was a new series that was not produced for 1970. It used the county subdivision maps (see below) as the base, with all block-numbered areas indicated by screening (shades of gray) the applicable ones on the county subdivision map sections, thus providing a visual representation of the areas for which block data were available. Two screen values were used to represent areas block-numbered as (a) part of the 1980 urbanized-area program and (b) beyond the limits of that program. In addition, SMSA boundaries, symbolized as screened bands, allowed the map user to determine the report series in which to find the block statistics. This series consisted of 243 map sections. The maps were published by State as part of the *Block Statistics* map series (PHC80-1), with an index for each SMSA report and an overall index for selected area reports covering all non-SMSA areas.

SMSA index to block-numbered-areas map series—This series was published in the PHC80-1 *Block Statistics* reports in five page sizes. It provided a detailed index for block-numbered mapsheets within each SMSA. The original base maps were formatted by SMSA at artwork scales of 1 inch = 2, 4, or 8 miles (1:126,720, 1:253,440, or 1:506,880), the predominant scale being 1 inch = 2 miles. Mapsheets varied in size from 21" x 57" to 40" x 57". A total of 360 mapsheets were prepared for the 323 SMSA's identified for the 1980 census.

The political information portrayed included international, State, county, county subdivision, and place boundaries and names. The information added as an overlay to the political

base included MMS sheet lines and numbers, and block-numbered area (BNA) information. The area was symbolized with two screen values, representing areas block-numbered either as a part of the urbanized-area program or beyond that program's limits.

These 1980 index maps differed significantly from the 1970 versions in several respects. The 1970 index maps covered only the urbanized-area portion of each SMSA, because block statistics were published by urbanized area. For the 1980 census, block data were issued by SMSA, so the index maps covered entire SMSA's.

County subdivision outline map series—This series presented the major higher levels of census geography in an easy-to-use format by State and statistically equivalent area. For all States, the District of Columbia, Puerto Rico, and the outlying areas, these maps showed the boundaries and names of the States and counties (and statistically equivalent areas), MCD's or CCD's, and all places recognized in the census.

The county subdivision outline maps were completely redesigned for publication with the 1980 census data. Major changes involved typography, scale, boundary-information detail, and the addition of a grid-referencing system. The series base was the USGS 1:500,000-scale State-base-map series, except for Alaska, Puerto Rico, and the outlying areas, which were at various scales. Census information—that is, county, MCD/CCD, and place names and boundaries—was obtained from the 1980 census maps to complete the compilation phase.

This multipurpose map series had totally new artwork, so that three versions of the map could be produced. The first version had 243 page-size sections that did not display American Indian reservations or Alaska Native villages. This version was published in the PC80-1-A State reports at scales varying from as large as 1 inch = 8 miles (1:506,880) to as small as 1 inch = 100 miles (1:6,336,000); half the States were shown at scales of 1 inch = 18 or 20 miles (1:1,140,480 or 1:1,267,200). The second version, published at the same scales, enhanced the sections to show the American Indian reservations and Alaska Native villages for which data appeared in the PC80-1-B and HC80-1-A State reports. The third version was a single-sheet wall-size map of one or more States (except California, which required two sheets) at the USGS scale of 1:500,000 (except for Alaska, Puerto Rico, and the outlying areas); some States were fitted together to form a multistate map. These maps did not show the American Indian and Alaska Native areas. The sheet size for most States was 42" x 60".

Urbanized area outline map series—This series consisted of one map for each urbanized area (UA) defined on the basis of the 1980 census. Each map showed the boundaries and names of all States, counties, county subdivisions, and places in the UA, as well as depicting (by shading) the land area defined as "urbanized." As in the 1970 census, there were three categories

of urbanized land area: urbanized incorporated places, urbanized census designated places, and urbanized unincorporated areas. The standard 1970 publication scale of 1 inch = 4 miles (1:253,440) was maintained, and metric units were added to the map scales.

These maps were published at page size in the PC80-1-A and HC80-1-A State reports. This resulted in some pages with one to four UA's to a page and other pages with only part of a single UA (which might be fragmented over as many as eight pages). An index map was included for multipage UA's. The report for each State containing part of a multistate "crossover" UA included the map of the entire UA; thus, a multistate UA could appear in as many as three State reports. There were 428 UA's (including duplications) shown on 214 published pages for 1980, compared with 252 UA's on 151 published pages in 1970. All the maps subsequently appeared in a combined UA special report, PC80-S1-14.

As in 1970, the same political base (that is, scribed base and type overlay) prepared for the SMSA block-numbered index map was used for the UA outline maps. Political-base artwork from more than one SMSA had to be combined where a UA existed in several adjacent SMSA's; where a UA appeared in both SMSA and non-SMSA areas, new political-base artwork had to be created.

One significant change from the 1970 version was an improvement in the maps' general appearance. Specifically, the use of photographic screening techniques and spread masks gave the map series a cleaner look. More major lakes and rivers were added as positional reference features. Another change was including the maps for multistate UA's in each of the respective State reports.

Census tract outline map series—This series covered each area for which 1980 census tracts were delineated. The maps showed all census tract boundaries, identified the features that constituted these boundaries, and displayed every tract's numeric identifier; they did not contain street detail within the tracts. Separate insets were made for densely populated areas; their scale varied from map to map, and fewer insets were used than for 1970. The census tract outline maps showed the boundaries and names for bordering nations and for States, counties, MCD's and CCD's, and all places (not just those over 25,000 population, as was done for 1970), together with the census tract boundaries and numbers. Census tract data were published by SMSA. (With the exception of a few SMSA counties and New England towns for which no tracts had been delineated, all SMSA's were covered completely by census tracts.) Maps also were prepared for non-SMSA areas with census tracts; these were always whole counties or groups of counties, except for those in New England that were partially within an SMSA; for the latter, only the non-SMSA part of the county was mapped separately.

Most maps were produced at a scale of 1 inch = 2 miles (1:126,720), with insets normally at a scale of 1 inch = 1 mile (1:63,360). The maps were published for use and sale with, but

separate from, the PHC80-2 *Census Tracts* data reports. There were 544 areas mapped on 555 mapsheets, compared with 241 published maps for the 1970 census. Individual paper, mylar (reproducible), and microfiche copies were available from the Bureau at the cost of reproduction.

Congressional district outline map series—This series depicted the boundaries of congressional districts for the 98th, 99th, and 100th Congresses of the United States within the various States, and reflected the number of Representatives apportioned to each State based on 1980 census results. These maps were included in the *Congressional District Data Book*, the *Congressional District Atlas*, and the *Congressional District Data Reports* (PHC80-4).

There was a page-size State map of varying scale for each State, the District of Columbia, Puerto Rico, and the outlying areas. The base was the 1980 census State SMSA/SCSA map, except in the case of the six New England States and the District of Columbia, for which the county subdivision map base was used. When a county contained two or more congressional districts, the map was screened to indicate that an inset map would show the detailed boundary descriptions.

The State map contained the outline and name of each county or county equivalent, the State capital, and generally all places of 25,000 or more inhabitants. The map showed at least one place in every congressional district; this was the most populous one in the district, even if it fell short of the 25,000-inhabitant figure. When identification of all qualifying places made the maps difficult to read, only selected places were shown. There were 57 page-size State and other maps, plus 237 inset maps produced for this series.

For the 100th Congress, maps also were prepared for selected districts that crossed county lines; each map—often multipage—showed an entire district. These were published only in the *Congressional District Atlas*.

Statistical (Thematic) Maps

The third publication-map category was statistical or thematic maps—that is, maps generally depicting the distribution of, or changes in, specific demographic and nondemographic qualities of American life across geographic areas. These maps, providing material for studying spatial variations and the relative magnitude of given sets of census data, were published both as single-sheet wall maps, primarily in the GE-50 and GE-70 series, and at half-page, full-page, or two-page size to be bound in the various printed U.S. summary reports. Typically, the maps were multicolored and covered specific themes. Unlike the maps in the two other major categories, thematic maps generally were prepared only at the special request of a sponsoring subject-matter division within the Census Bureau.

In the past, the Bureau issued a number of maps in its GE-50 series (started in the early 1960's) and occasionally in its GE-70 series (which began in 1974) following a national census. The GE-50 series was intended for either wall display or desk use.

Each map (30"x42") was printed at a scale of 1:5,000,000, and depicted either the distribution of a socioeconomic characteristic or measure, or the boundaries of specific major areas of interest. Various color schemes were used to show significant characteristics of the distribution. The GE-70 series also was for wall display, but was published at a smaller sheet size (20"x30") and at a 1:7,500,000 scale. The GE-80 *Urban Atlas* series (established for the 1970 census) was abandoned for 1980 because of funding limitations.

The display maps were produced using conventional procedures that required resources of time and money, and involved deep-etch peelcoats to make open-window color separations in negative form. A separate peelcoat was prepared for each class interval. Part of the process was later automated, reducing the time required to prepare the separations, but a technician still had to intervene. The Census Bureau produced a number of these single-sheet wall maps following the 1970 census, but it issued only a few after the 1980 census. These included such topics as the current metropolitan statistical areas and congressional districts, and the distribution of urban and rural population. A number of page-size maps were produced for inclusion in the PC80-1 and HC80-1 U.S. summary reports.

Metropolitan statistical area (MSA) maps—Maps reflecting revised MSA's were issued in the GE-50 series in 1982 (No. 76), 1983 (No. 79), 1984 (No. 80), 1985 (No. 82), and 1986 (No. 84). The five releases reflected definitional changes announced by the Office of Management and Budget (OMB). GE-50 map No. 76 was similar to the ones produced during the 1970's, being based on the concept of SCSA's/SMSA's as defined for the 1980 census (using population estimates developed during the late 1970's) with qualification confirmed by the 1980 census counts. In 1983, however, the OMB implemented new standards for designating and defining MSA's; it changed the concept from SCSA/SMSA to MSA, including consolidated MSA (CMSA) and primary MSA (PMSA) to reflect refinements in the MSA definition. It also included the redefinition of metropolitan areas based on the results of the 1980 census. GE-50 maps Nos. 80, 82, and 84 were issued to incorporate additional OMB changes made in the ensuing years.

The 1983 map also reflected several major design changes over previous versions. Among the most notable changes were increasing the size of the overall map, depicting the MSA's in four population levels, showing UA areas, and using the reverse side of the map to identify the components and names of the MSA's in the six New England States in greater detail than could be shown on the parent sheet.

Congressional district maps—Maps depicting congressional districts were issued in the GE-50 series to show the districts in relationship to counties; separate maps were issued for the 98th (No. 77), 99th (No. 81), and 100th (No. 85) Congresses. The 98th Congress was the first one reapportioned on the basis of the 1980 census results. The 99th Congress was mapped because a large number of States changed their 98th Congress

districts. To mark the occasion of the 100th Congress as an historical event (200 years of national population representation), the Census Bureau developed a special commemorative map. In addition to the standard rendering of congressional districts (only one State—Ohio—had changed for this Congress), the reverse side of the map had a series of maps depicting congressional district development from the 1st Congress in 1787 through the 25th, 50th, and 75th, culminating with the 100th Congress in 1987. Special colors, borders, and paper were used to make this map unique and informative.

Population distribution map—This map was issued in both the GE-50 and GE-70 series. The GE-70 map (No. 4) showed the 1980 distribution of the Nation's population as if viewed at night from a high-altitude satellite. This 40" x 29" "nighttime" map had a navy blue background, with the Nation shown in a darker midnight blue and the population distribution in white. The map was later reissued as GE-70 map No. 6 (30" x 20"), but the printer camera copy for this edition was produced almost entirely by automated means (only the text was placed manually) on the National Oceanic and Atmospheric Administration's laser plotter, a raster device.

A "daytime" version of this map also was issued in the GE-50 series (No. 83). This 45" x 36" map depicted the distribution of urban and rural population, but in the more traditional manner. The 1980 map was vastly different from its 1970 and previous versions, which showed population by dot distribution and graduated circle techniques; the 1980 version combined dot distribution with classed choropleth techniques, and various symbols (squares, circles, triangles) distinguished urban and rural populations and the size of population concentrations. The 1980 population data were depicted in seven colors, categorized by three size classes of urbanized areas, two of urban places, and two of rural population. The map also showed data for the U.S. territories. The line work was created by conventional techniques; all thematic symbols were placed with computer-assisted techniques from data files, using a large-format, flatbed vector plotter.

Heating fuels map—This map presented changing patterns of home-heating fuels used by American households over four decades. The trend in type of such fuel used for census years 1980, 1970, 1960, and 1950 were color-coded by county according to the fuel used to heat most housing units in each county. There were four panels (one for each census) on a single mapsheet, 11" x 34".

U.S. summary outline maps—These were small-scale thematic maps covering a wide array of subjects for inclusion in the bound U.S. summary reports. They comprised a mixture of half-, full-, and two-page multicolored maps, each portraying one data topic. There were choropleth maps showing both the a real distribution and the change in distribution of a population or housing attribute; geographic outline maps that related to geographic summaries; and special-purpose maps, such as

one portraying the historical movement of the center of U.S. population by decade from 1790 to 1980, and others displaying the dates of admission of States and the acquisition of territories. The specific maps published in a given report depended on the data published. Statistical maps were included in the PC80-1 and HC80-1 U.S. summary reports.

THE PUBLIC LAW 94-171 PROGRAM

State and local governments use census data in determining the boundaries of congressional, State, and local legislative districts, and did so particularly after a series of Supreme Court decisions beginning in 1962 that required such districts to be relatively balanced in population. In the case of *Wesberry v. Sanders* (1964), for example, the Court ruled that "as nearly as practicable, one man's vote in a congressional election is to be worth as much as another's." This doctrine was extended to State and local elections as well. (In 1986, the Supreme Court ruled that race, as well as population, had to be taken into consideration when district boundaries were established.)

As early as 1972, Bureau planners began to meet with staff members of the National Conference of State Legislatures (NCSL) and State and local officials to see how well the 1970 census data had met their redistricting needs and to solicit their suggestions for 1980. In 1973, the NCSL's Reapportionment Committee (with Bureau involvement) surveyed legislative officials and their staffs, and the results were published in 1974 as a set of recommendations for planning the tabulations needed for legislative redistricting. The Bureau staff then worked with the Reapportionment Committee to carry out as many of the NCSL recommendations as possible.

In December 1975, Congress passed H.R. 1753, which was enacted as P.L. 94-171. This law included several requirements for the Bureau as well as for the States that chose to participate in this voluntary program for obtaining the census data necessary for reapportionment and redistricting. First, the law directed the Secretary of Commerce (and thus the Census Bureau) to issue a set of technical criteria by April 1, 1976, that the States would have to follow in specifying the geographic areas for which they wished to receive 1980 population tabulations. Second, the States were to submit these geographic plans to the Bureau for consideration not later than April 1, 1977. Third, the Bureau was to transmit the total population tabulations to the Governors and the public bodies having initial responsibility for legislative districting in all States by April 1, 1981—a year after Census Day 1980. The Bureau issued the necessary criteria on March 31, 1976, and Bureau and NCSL staff met with legislative officials in the 50 States to discuss the requirements and the particular States' possible interests in participating in the P.L. 94-171 program. The NCSL also provided each State with "model" legislation that might be enacted to ensure that the boundaries of election precincts (or similar areas) would follow visible ground features and adhere to the other technical guidelines.

By the April 1, 1977 deadline, 17 State legislatures had submitted geographic plans, although one State (California) subsequently withdrew its plan and two others had their plans returned because they did not conform with the technical criteria. The remaining 14 State plans were approved after extensive review and consultation with the States over a 2-year period. In May 1977, officials of nonparticipating States were contacted and apprised of other ways in which the Bureau could provide the data they needed. For example, States that could not "freeze" precinct lines in time to participate in the P.L. 94-171 program could receive census block statistics cumulated to precincts or similar areas. Another possibility would be to participate in delineating the boundaries of 1980 census enumeration districts (ED's) with legislative districts in mind. Five States submitted ED plans for portions of their areas, and two others asked the Bureau to hold legislative district boundaries in selected counties as ED boundaries where possible. A third way would be to take part in the Bureau's contract block program, and five States did so, contracting for such data for all areas not already covered in the Bureau's regular blockstatistics program. The remaining States then were scheduled to receive population tabulations only for the political and statistical areas customarily recognized in the 1980 census.

In February and March 1981, the Bureau delivered the P.L. 94-171 population counts on computer tape, microfiche, and paper to the official recipients in each State (one designated by the Governor and one designated by the legislature or other official body responsible for redistricting/reapportionment) and the District of Columbia. These counts included total population, the five major race groups, and the number of persons of Spanish origin for the State, counties, county subdivisions, incorporated places, election precincts or similar areas (in all or parts of 23 States), census tracts, block groups, blocks, and ED's in nonblocked areas. The Bureau also provided 1980 census maps. Where requested, one set of mylar (reproducible) maps was furnished for all officials to share; otherwise, all designated count recipients also received paper map sets.

In general, the program worked well, although some officials felt that some of the participation criteria were too rigid—especially the one that precincts would have to have boundaries conforming to visible ground features. There were some complaints about map readability, and others about the lack of time: Some States had very tight schedules for producing their redistricting/reapportionment plans, and officials felt pressured to process the information they had received without resolving perceived differences between the census figures and their own.

PUBLIC-USE COMPUTER TAPES

The Census Bureau released several kinds of 1980 census data on tape for public distribution and sale: **Summary data** for specific geographic and statistical areas, down to the level of a census block or enumeration district; **special tabulations** on a reimbursable basis for customers needing particular data not

obtainable from the summary tapes; **microdata** files—samples of the basic census records for individuals, households, and housing units with all identification removed other than to an area of 100,000 or more population; **geographic reference products** (including printed-out versions of computer tapes); and still other **special-purpose products**, such as data for migration analysis.

All the 1980 tapes differed from their 1970 counterparts in density—1,600 and 6,250 bpi (bytes per inch), 9-track, labeled or unlabeled, EBCDIC (extended binary coded decimal interchange code) or ASCII (American standard code for information interchange), compared with the 1970 tapes, which were 556 or 800 bpi, 7-track, binary-coded decimal, or 800 bpi, 9-track, EBCDIC only. The 1980 summary tapes contained more tabulations by race and ethnicity, and included geographic area names as well as their codes, while the structure of the geographic identification segment of each record was standardized across all the summary tape series.

The first of the 1980 census products on tape sold for \$110 a reel, with an additional charge for “stacking” multiple data files on one or more reels. On March 1, 1982, the price was increased to \$140 a reel, and \$165 per reel was established for “stacked” files. On November 1, 1986, the price was increased again, this time to \$175; at the same time, the Census Bureau began offering priority service—up to 5 days with overnight delivery—at additional charge on certain products. Technical documentation describing the organization of each table, the various codes and characters used, and the nature of the logical records (the geographic identification and all the data

fields for a given geographic area) normally was included with each file order; copies ordered separately ranged from \$5 to \$25.

Summary Tapes

For 1980, the Bureau produced a series of five summary tape files (STF's) for the United States, each State, and the District of Columbia, and in some cases for Puerto Rico and the outlying areas. These STF's, designed to provide population and housing statistics with greater subject and geographic detail than was feasible or desirable to show in the printed reports, corresponded to the five computer tabulation runs (see ch. 6) that generated the printed reports and STF's after appropriate review and the application of suppression routines where necessary. The first two files (STF's 1 and 2) dealt only with 100-percent (complete count) data derived from the response to the census questions asked for all households and housing units. The other three files presented tabulations of the full range of sample population and housing characteristics, often cross-tabulated by the sample counts for such 100-percent characteristics as sex, race, Spanish origin, or tenure. Since data from STF's 3, 4, and 5 were based on sample information inflated to represent the total population, data summaries for items in these files differed slightly from comparable summaries in STF's 1 and 2.

Table F gives an overview of STF's 1 through 5; it notes the related report series for each STF, the smallest geographic unit, the number of data cells per record, the subject items for which detailed summaries were given, and the type of data (complete count or sample estimates). The term “cells” refers to the number of subject statistics provided for each geographic area; the number of cells reflects the complexity of the file's subject content.

Table F. Overview of 1980 Summary Tape Files (STF's)

Legend: BG Block Group
ED Enumeration district
MCD Minor civil division
CCD Census county division
SMSA Standard metropolitan statistical area

STF	Related report series	Smallest geographic unit	Data cells per record	Detailed summaries by:
Complete-count Data:				
STF1	PC80-1-A; PHC80-1; part of PHC80-3 and -4	Block/ED	321	Total
STF2	PC80-1-B; HC80-1-A; part of PHC80-2	Tract, MCD/CCD, place of 1,000 +	1,330 (Record A) 962 (Record B)	Record A for total. Record B repeated for: Total, race, Spanish origin
Sample Estimate Data:				
STF3	Part of PHC80-3 and -4	BG/ED	1,126	Total
STF4	PC80-1-C; HC80-1-B; part of PHC80-2	Tract, MCD/CCD, place of 2,500 +	5,000 (estimate for Record A) 3,500 (estimate for Record B)	Record A for total. Record B repeated for: Total, race, Spanish origin ancestry
STF5	PC80-1-D; HC80-2	Central city of SMSA, county of 50,000 +, place of 50,000 +	108,000 (estimate)	Repeated for: Total, race, Spanish origin

Each STF generally consisted of two or more files that provided different degrees of geographic detail and, in some cases, race/Spanish origin/ancestry cross-classification. For each of the tape files, there was a separate tape or tapes for each State, the District of Columbia, and Puerto Rico. These tapes were issued on a State-by-State basis and were followed by a national summary tape for the particular file. Selected files (STF 1 and STF 3) also were produced for Guam, the Virgin Islands of the United States, American Samoa, and the Northern Mariana Islands and the remainder of the Trust Territory of the Pacific Islands. (More complete descriptions of the STF's than given in the summaries below can be found in the specific files' technical documentation and in the PHC80-R1 *Users' Guide*.

In line with Bureau policy followed in the 1970 census, tapes in the 1980 STF 1 series were not released until their corresponding printed reports had been published. This policy was relaxed in July 1982 to accelerate release of STF's 2 and 3: The tapes were cleared when the corresponding reports were approved for publication and sent to GPO for printing (usually 4 to 6 weeks before they were issued). In all, approximately 1,100 reels of STF tape were released.

For files released by State, the number of reels per State varied, depending on such factors as the number of substate areas being reported and the tape density desired—either 1,600 or 6,250 bpi.

In February 1980, the Bureau released prototypes of STF's 1A, B, and C based on complete-count data collected in the 1978 census dress rehearsal in the Richmond, VA area, and hence called the "Richmond test tapes." (Plans to issue corresponding test tapes of STF's 2 and 3 in early 1981 were cancelled.) The purpose here was to give data users an opportunity to experiment with public-use tapes in the Bureau's 1980 formats before ordering the final products. The same STF's, except for 1B, also were made available on microfiche (including documentation). In June 1980, the Bureau also produced a tape formatted for the P.L. 94-171 population counts (see p. 8-29), again using the 1978 Richmond data.

What follows is a description of the final STF's in numerical order.

STF 1 provided 321 cells of complete-count population and housing data, summarized for the United States, regions, divisions, States, SCSA's, SMSA's, urbanized areas, congressional districts, counties, county subdivisions, places, census tracts, enumeration districts in unblocked areas, and blocks and block groups in blocked areas. The data included those shown in the PHC80-1, PHC80-3 (complete count), and PC80-1-A reports. STF 1A tapes were issued between September 1981 and March 1982, with one for Puerto Rico in May 1982. There was an STF 1 tape (one file only) for the outlying areas; it was released in October 1982. STF 1B tapes were issued between October 1981 and April 1982 (the early tapes were recalled in December 1981); there was an STF 1B for Puerto

Rico, released in May 1982. The STF 1C national file was issued in July 1982, and the STF 1D for congressional districts, in May 1982. STF 1E (allowing comparison of 1970 data for North Dakota for CCD's with those for the townships used instead for 1980) appeared in May 1982. STF 1F (for school districts), with one tape for each State, was released in May 1983. STF 1G (for the Neighborhood Statistics Program) was issued as one tape for each State, beginning in June 1983, and the tape for Puerto Rico was released in August 1984. STF 1H was the equivalent of STF 1D (see above) for 10 States that had newly defined congressional district boundaries for the 99th Congress; one reel was issued for each State in May 1984.

STF 2 contained 2,292 cells of detailed complete-count population and housing data, of which 962 were repeated for each race and Spanish-origin group present in the tabulation area. Data were summarized for the United States, regions, divisions, States, SCSA's, SMSA's, urbanized areas, counties, county subdivisions, places of 1,000 or more inhabitants, census tracts, American Indian reservations, and Alaska Native villages. The data included those shown in the PHC80-2 (complete count), PC80-1-B, and HC80-1-A reports. The STF 2A tapes were released between February and July 1982, and a similar one for Puerto Rico in September 1982. STF 2B tapes appeared between February and September 1982. STF 2C tapes were issued between March and September 1982. STF 2D (a special tabulation for New York City) was released in October 1982.

STF 3 offered 1,126 cells of data on various population and housing subjects collected on a sample basis. The geographic areas covered were the same as in STF 1, excluding blocks. The data included those shown in the PHC80-3 (sample) reports. STF 3A tapes were issued between May and September 1982. Subsequently, several anomalies were discovered in the income tabulation (see ch. 12); the tapes were corrected and completely reissued in February 1983 together with a similar STF 3A for Puerto Rico and STF 3 for the outlying areas. STF 3B (for five-digit ZIP-Code areas within county for States and SMSA's [there was no STF 3B for Puerto Rico or the outlying areas]) was issued as a special tabulation to a consortium of data users in July 1982 and to the public in September 1984. (At 6,250 bpi, there was one reel per State, but the data could be "stacked" into seven reels for the United States.) STF 3C (the national file) was released in January 1983; as with STF 3A, correction and reissuance followed the next month. STF 3D (congressional districts) appeared in May 1983, and STF 3F (there was no 3E), a school-district file that paralleled STF 1F, was issued in May 1983. STF 3G (Neighborhood Statistics Program) tapes appeared between March and June 1983, with Puerto Rico following in September 1986. STF 3H (10 States with newly defined congressional districts for the 99th Congress) was released in April 1985.

STF 4 was the geographic counterpart of STF 2, but the number of cells of data was greater—approximately 8,400. STF 4 provided data covering virtually all of the population and housing subjects collected on a sample basis, as well as the

Table G. Number of Tape Reels for Selected 1980 Census Files

(United States, States, and the District of Columbia, only)

Source: Bureau *Catalog and Guide*

Geographic area	STF 1A		STF 1B		STF 2A		STF 2B		STF 3A	
	1600 bpi	6250 bpi	1600 bpi	6250 bpi	1600 bpi	6250 bpi	1600 bpi	6250 bpi	1600 bpi	6250 bpi
United States	32	13	230	65	135	38	125	51	105	43
Alabama	1	1	4	1	2	1	2	1	2	1
Alaska	1	1	1	1	1	1	1	1	1	1
Arizona	1	1	3	1	2	1	2	1	2	1
Arkansas	1	1	3	1	1	1	3	1	2	1
California	3	1	18	5	12	5	3	1	9	3
Colorado	1	1	3	1	2	1	1	1	2	1
Connecticut	1	1	3	1	2	1	2	1	2	1
Delaware	1	1	1	1	1	1	1	1	1	1
District of Columbia	1	1	1	1	1	1	1	1	1	1
Florida	2	1	11	3	5	2	2	1	4	2
Georgia	1	1	11	3	2	1	3	1	3	1
Hawaii	1	1	1	1	1	1	1	1	1	1
Idaho	1	1	1	1	1	1	1	1	1	1
Illinois	2	1	10	3	6	2	5	2	6	2
Indiana	1	1	6	2	3	1	3	1	3	1
Iowa	1	1	3	1	2	1	4	1	3	1
Kansas	1	1	3	1	2	1	4	1	2	1
Kentucky	1	1	2	1	2	1	2	1	2	1
Louisiana	1	1	4	1	2	1	2	1	2	1
Maine	1	1	1	1	1	1	2	1	1	1
Maryland	1	1	4	1	3	1	1	1	2	1
Massachusetts	1	1	6	2	3	1	2	1	3	1
Michigan	2	1	8	3	5	2	4	1	5	2
Minnesota	1	1	5	2	2	1	5	2	4	1
Mississippi	1	1	5	2	1	1	2	1	2	1
Missouri	1	1	5	2	2	1	3	1	3	1
Montana	1	1	2	1	1	1	1	1	1	1
Nebraska	1	1	2	1	1	1	3	1	2	1
Nevada	1	1	1	1	1	1	1	1	1	1
New Hampshire	1	1	1	1	1	1	1	1	1	1
New Jersey	1	1	8	3	4	2	2	1	3	1
New Mexico	1	1	2	1	1	1	2	1	1	1
New York	3	1	11	4	10	3	4	2	7	2
North Carolina	1	1	5	2	4	2	2	1	3	1
North Dakota	1	1	1	1	1	1	4	2	2	1
Ohio	2	1	9	3	5	2	5	2	5	2
Oklahoma	1	1	4	1	2	1	2	1	2	1
Oregon	1	1	3	1	2	1	1	1	2	1
Pennsylvania	2	1	13	4	7	2	7	2	6	1
Rhode Island	1	1	2	1	1	1	1	1	1	1
South Carolina	1	1	3	1	2	1	2	1	2	1
South Dakota	1	1	1	1	1	1	3	1	2	1
Tennessee	1	1	4	2	2	1	2	1	2	1
Texas	2	1	17	5	4	2	4	1	7	2
Utah	1	1	2	1	1	1	1	1	1	1
Vermont	1	1	1	1	1	1	1	1	1	1
Virginia	1	1	6	2	3	1	2	1	3	1
Washington	1	1	5	2	2	1	1	1	2	1
West Virginia	1	1	2	1	1	1	2	1	1	1
Wisconsin	1	1	5	2	3	1	5	2	3	1
Wyoming	1	1	1	1	1	1	1	1	1	1
Puerto Rico	—	—	—	—	—	—	—	—	—	—
Outlying areas	—	—	—	—	—	—	—	—	—	—

* To be determined.

Chapter 8. Data Products and Dissemination

STF 4A		STF 4B		STF 5A (Population)		STF 5A (Housing)		PUM Sample A		Geographic area
1600 bpi	6250 bpi	1600 bpi	6250 bpi	1600 bpi	6250 bpi	1600 bpi	6250 bpi	1600 bpi	6250 bpi	
430	108	800	210	*	118	*	66	*	22	United States
6	2	14	4	9	3	4	1	2	1	Alabama
1	1	5	2	2	1	1	1	1	1	Alaska
	2	6	2	5	2	2	1	1	1	Arizona
3	1	14	4	6	2	3	1	1	1	Arkansas
55	14	37	10	33	9	13	4	9	3	California
7	2	10	3	6	2	3	1	1	1	Colorado
5	2	8	2	12	3	3	1	2	1	Connecticut
2	1	3	1	2	1	1	1	1	1	Delaware
1	1	1	1	2	1	1	1	1	1	District of Columbia
18	5	24	6	18	5	7	2	4	1	Florida
6	2	21	6	9	3	4	1	2	1	Georgia
2	1	4	1	2	1	1	1	1	1	Hawaii
1	1	7	2	3	1	1	1	1	1	Idaho
19	5	29	8	14	4	6	2	4	1	Illinois
8	2	20	5	12	3	5	2	2	1	Indiana
3	1	16	4	7	2	3	1	1	1	Iowa
3	1	16	4	5	2	2	1	1	1	Kansas
4	1	16	4	6	2	3	1	2	1	Kentucky
6	2	15	4	9	3	4	1	2	1	Louisiana
2	1	7	2	4	1	2	1	1	1	Maine
8	2	12	3	7	2	3	1	2	1	Maryland
7	2	12	3	11	3	4	1	2	1	Massachusetts
12	3	27	7	18	5	7	2	4	1	Michigan
1	2	22	6	6	2	3	1	2	1	Minnesota
3	1	13	4	5	2	2	1	1	1	Mississippi
6	2	20	5	7	2	3	1	2	1	Missouri
1	1	7	2	3	1	1	1	1	1	Montana
2	1	12	3	3	1	1	1	1	1	Nebraska
2	1	4	1	3	1	1	1	1	1	Nevada
1	1	5	2	4	1	2	1	1	1	New Hampshire
11	3	21	6	14	4	5	2	3	1	New Jersey
3	1	7	2	4	1	2	1	1	1	New Mexico
25	7	29	8	23	6	7	2	6	2	New York
8	2	23	6	14	4	6	2	3	1	North Carolina
1	1	10	3	3	1	2	1	1	1	North Dakota
16	4	31	8	19	5	8	2	4	1	Ohio
6	2	13	4	5	2	2	1	2	1	Oklahoma
5	2	10	3	6	2	3	1	1	1	Oregon
13	4	36	9	18	5	7	2	5	2	Pennsylvania
2	1	3	1	4	1	2	1	1	1	Rhode Island
5	2	12	3	8	2	4	1	2	1	South Carolina
1	1	10	3	2	1	1	1	1	1	South Dakota
6	2	15	4	8	2	3	1	2	1	Tennessee
25	7	41	11	25	7	10	3	5	2	Texas
3	1	6	2	4	1	2	1	1	1	Utah
1	1	1	4	1	2	1	1	1	1	Vermont
7	2	20	5	11	3	5	2	2	1	Virginia
8	2	14	4	9	3	4	1	2	1	Washington
2	1	9	3	6	2	3	1	1	1	West Virginia
7	2	20	5	12	3	5	2	1	1	Wisconsin
1	1	4	1	2	1	1	1	1	1	Wyoming
-	-	-	-	-	-	-	-	-	-	Puerto Rico
-	-	-	-	-	-	-	-	-	-	Outlying areas

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complete-count subjects. Some of the statistics were repeated for race, Spanish origin, and ancestry groups. Data were summarized for areas similar to those shown in STF 2, except that data for places were limited to those with 2,500 or more inhabitants. The statistics included those shown in the PHC80-2 (sample), PC80-1-C, and HC80-1-B reports. Except for five States with faulty master tapes, reels for STF 4A were issued between June and September 1983; the Puerto Rico tape (modified in the same manner as for STF 2A) appeared in August 1984. STF 4B tapes were issued during the same period. STF 4C was released in the summer of 1983, and STF 4D (New York City), in September 1983.

STF 5 contained over 100,000 cells of data on various population and housing subjects collected on a sample basis and provided detailed tabulations and cross-tabulations for States, SMSA's, counties, places of 50,000 or more inhabitants,

and central cities. Most subjects (except for Puerto Rico) were classified by race and Spanish origin. The data included those shown in the PC80-1-D and HC80-2 reports. Separate files—5A Population, and 5A Housing—were issued for the States between September and December 1983 and comparable ones for Puerto Rico in July 1984. There was no STF 5B. STF 5C (national file) was released in March 1984.

Special Tabulations

Special tabulations were run from the 1980 census basic record tapes to meet users' unique needs on a cost-reimbursable basis. The user had exclusive use of the tabulation for 6 months after receipt, unless other arrangements were made; thereafter, the Bureau was at liberty to sell copies of the tape(s). Following is a representative list:

Topic or tabulation	Number of reels	
	6,250 bpi	1,600 bpi
STF 1F data by school district (National Center for Education Statistics (NCES))	2	4
STF 3F data by school district (NCES)	2	4
Poverty level and children (NCES)	—	—
Recruitment analysis (Department of Defense (DOD))	—	—
Mobilization analysis (DOD)	—	—
Equal Employment Opportunity (see p. 37) by age (DOD)	—	—
Age, sex, tribal affiliation, and Spanish surname for New Mexico and Arizona enumeration districts and counties (New Mexico State Tumor Registry)	1	1
Selected housing data by ZIP Code for Tennessee Valley Authority	1	1
Age, occupation, and industry, by residence and class of worker for States and SMSA's (National Occupational Information Coordinating Committee and Bureau of Labor Statistics)	1 SMSA 10 counties 1 New England SMSA	
Occupation by race and sex, classified separately by industry, earnings, and education (National Planning Data Corporation (NPDC))	10	30
Age by race and sex by nativity by Spanish origin, for States (Yale University)	2	5
Traffic zone package created for 200 SMSA's on a regional, State-wide, or single-SMSA basis	—	—
Households by income and age of householder, and owner-occupied units by value and age of householder for States, counties, census tracts, enumeration districts, and block-numbering areas (NPDC)	3	10
Detailed occupation by industry by class of worker for service delivery areas (Minnesota Dept. of Economic Security)	1	1
Migration data from STF 5 for selected counties in California (University North Carolina)	1	1
Characteristics of teachers at the national level (NCES)	1 U.S. 1 States	1 1
Displaced homemakers	1	1
STF's 2, 3, and 4 for labor market areas (Maine Bureau of Employment Security)	1	1

Public-Use Microdata Samples (PUMS)

For data users who wanted to design their own tabulations, the Census Bureau offered PUMS—computerized representations of the actual questionnaire responses, statistically selected from the basic record tapes, but with names, addresses, and any other identifying information removed to preserve confidentiality. The only geographic identification possible would be to an area (usually a State, SMSA, or county group) with population of a specified minimum size. The basic unit for this sample has always been the individual housing unit and its occupants, if any, or of individuals in institutions or other group quarters.

The Census Bureau first made microdata samples available after the 1960 census; the products, in the form of 1-in-1,000 and 1-in-10,000 extracts from the 1960 25-percent sample basic record tapes, were sold to users on tape or on punchcards. After the 1970 census, six different public-use samples were made available—three from the 1970 5-percent and three from the 15-percent sample for States, county groups and SMSA's with 250,000 or more population for any one unit or combination that was identified, and for neighborhoods identified only by State or region. Each of the six samples came in three "sizes"—a 1-in-100 primary sample and 1-in-1,000 and 1-in-10,000 subsamples. A 1-in-100 State sample was created from the 1960 census, with form and detail parallel to the 1970 version to make historical comparisons possible.

For 1980, there were three independently drawn subsamples of the full 19.4-percent census sample for the United States and Puerto Rico. The three subsamples were designated "A," "B," and "C," and each featured a different geographic scheme. The "A" sample identified divisions, States, most counties and selected SMSA's and places that had 100,000 population or more, and selected county groups. "B" covered some States, SMSA's of 100,000 or more population, selected county groups, and selected counties and places with 100,000 or more population, and provided a metropolitan/ nonmetropolitan breakdown. "C" had divisions, some States, selected places of 100,000 or more population, selected urban areas, and offered an urban/rural breakdown. "A" was a 5-percent sample, new for 1980—a selection nationwide of records for approximately 11 million persons and over 4 million housing units. "B" and "C" were 1-percent samples. The Bureau also produced 1-in-1,000 extracts of the microdata samples. The 1980 PUMS U.S. tapes were issued between March and October 1983, during which time there were certain recalls and re-releases to correct income codes and insert State FIPS (Federal Information Processing Standards) codes that were found missing in the "B" sample. The Puerto Rico files were released in January 1986. The number of tapes in the "A" sample is listed by State in table G; States were grouped on the "B" and "C" sample tapes and on the "A," "B," and "C" subsamples. Separate mapsheets were made available for the "A" and "B" samples in July 1983.

In May 1986, the Bureau issued a PUMS tape covering the supplementary questionnaire used on American Indian reservations and in the historic areas of Oklahoma (excluding urbanized areas). The questionnaire was limited to households that had received the regular short-form questionnaire in the census and had at least one American Indian, Eskimo, or Aleut member. The tape had records for about 3.7 percent of the entire American Indian population and the housing units in which they lived. (A summary tape file to cover the supplemental questions was issued in December 1986.)

Geographic Reference Products

A number of the 1980 census tape products were reference files and street-name/address-range listings, some including data, based on census geography. The Bureau developed the files originally as a means of allocating the collected data to their proper geographic areas by computer rather than by clerks. Several of the reference files contained varying hierarchical structures used in tabulating the data, and some could be used for computer mapping.

GBF/DIME (geographic base file/dual independent map encoding) files (see chs. 2 and 3) were developed to computer-code 1970 census addresses for the urbanized cores of metropolitan areas to their appropriate blocks, census tracts, etc., for enumeration and tabulation purposes. During the 1970's, the files were expanded from 80 areas to 278 for 1980; of these 278, 274 were digitized by the time of the 1980 census, and 4 were created in undigitized form expressly for the 1980 census. Each GBF/DIME record identified a segment of a geographic feature on a map by its node points, address ranges, and geographic units (block, census tract, place, MCD/CCD, and county). It included records for some nonstreet features, such as railroads, streams, and political boundaries as well as streets. Node points identified the intersections of those features. Latitude, longitude, and State plane coordinates were assigned to each node on the digitized files (which could be used for mapping); those positions were blank on the undigitized files. Each file covered the urbanized core of an SMSA, and ranged in size between 3,000 and 226,000 records.

The **Geographic Identification Code Scheme (GICS)** was issued on one reel of tape in the latter part of 1982. The GICS consisted of a listing of the names and numeric codes for States, counties, county subdivisions (MCD's/CCD's), places, etc., for which data were tabulated in the 1980 census, and paralleled the GICS printed report, PHC80-R5 (see p. 21).

The **Master Area Reference File** was really a series of files that corresponded to the master enumeration district list (MEDList) used in the 1970 census but in slightly different format. MARF 1 was an extract of STF 1 (see p. 31) data applied to a master list of geographic areas and related codes, arranged hierarchically from the State down to the block group or enumeration district level. To assist programmers outside the Census Bureau to develop their capacity to retrieve 1980 census data for their

own systems, it released a test tape based on the 1978 special census of Richmond, VA (a dress rehearsal for the 1980 Decennial Census; see ch. 2). The test tape was issued in 1980; MARF 1 for the United States (2 reels at 6,250 bpi or 6 reels at 1,600 bpi) was released in November 1981, and MARF 1 for Puerto Rico (1 reel), in December 1983.

MARF 2 added population centroid coordinates, land area, total population and housing-unit sample estimates and per capita income based on 1980 census sample returns, and FIPS (Federal Information Processing Standard) codes. MARF 2 for the United States (2 reels at 6,250 bpi or 6 reels at 1,600 bpi) was issued in September 1983, and for Puerto Rico (1 reel) in August 1984.

MARF 3 and MARF 4 were school-district equivalency files. MARF 3 contained geographic areas down to the level of block group and enumeration district from STF's 1A and 3A (see p. 31) as well as total population and housing-unit counts. MARF 4 was the same as MARF 3 except that the geographic areas went to the block level and came from STF 1B (see p. 31). MARF 5 was a ZIP-Code equivalency file, with items from STF's 1A and 3A. MARF 3 (2 reels at 6,250 bpi or 6 reels at 1,600 bpi) and MARF 4 (12 reels at 6,250 bpi or 56 reels at 1,600 bpi) were issued in January 1984, and MARF 5 (2 reels at 6,250 bpi or 6 reels at 1,600 bpi) was released in September 1984. There were no Puerto Rico equivalents for these files.

A 1-reel neighborhood equivalency file was created in the summer of 1983 to show the correspondence between 1,252 communities' locally defined neighborhood publication areas and their component neighborhoods and 1980 census geographic areas. A microfiche version of this tape was included with the technical documentation that accompanied STF 1G and 3G (see also the printed reports described on p. 21).

In the summer of 1981, the Bureau released a census-tract equivalency file on tape (1 reel) that it had created originally for internal use. This file provided rough comparability between 1970 census tracts and the ones delineated in late 1978 in preparation for the 1980 census (and vice versa), by State, county, and tract code for both censuses.

That fall (1981), the Bureau issued a 1-reel "County and MCD by ZIP Code" file that related ZIP Codes (as of 1979) to counties, SMSA's, and—in New England—to MCD's, as a byproduct of a file called DOZIP (district office—ZIP Code) used internally in the 1980 census. The file covered the 50 States and the District of Columbia.

The next summer (1982), the Bureau released a 1980 census county boundary file (1 reel at 6,250 bpi or 2 reels at 1,600 bpi). This file contained nearly 475,000 records showing FIPS State and county codes, alphabetic State and county names, 1980 census population counts, and geographic coordinates defining each county boundary.

The PUMS county group equivalency file, issued on one reel in the spring of 1983, contained the area names, numeric codes, and 1980 census population counts for the components (counties, MCD's, and place parts within counties) of each "A"

and "B" public-use sample county group used in the 1980 census microdata files (see p. 35 above). Each county group was identified by a unique five-digit State and county group code combination. The file also was offered in microfiche.

The Census Bureau began issuing geographic reference tapes suitable for computer-mapping congressional districts in 1975. The first of these files, available only in 1,600-bpi or 800-bpi format, covered the 94th Congress. It gave the State FIPS code, the district number, and x-y coordinates. A similar 1-reel tape was issued in 1979 for the 96th Congress, and another for the 98th Congress in 1983; these were in 6,250-bpi and 1,600-bpi format. Thereafter, the Bureau began issuing congressional district *equivalency* files—for the 98th, 99th, and 100th Congresses in 1983, 1985, and 1987, respectively. The equivalency files, which contained two-digit congressional-district codes and State and county records, as well as lower levels of geography as required, equated each congressional district with the appropriate 1980 census geographic areas.

The *contiguous county* file (1 reel, 6,250 or 1,600 bpi) released in the summer of 1986 and updated in 1988, provided information on the relationship between adjacent counties (and statistically equivalent areas) in the United States. It showed several types of connectivity: physical adjacency (including those areas separated by water but linked by a bridge), those nearby but not adjacent, and economic integration (measured by one-way commuting flows of at least 2,000 people per day in 1980). The file had been prepared originally as an aid in validating 1975-1980 population estimates, and it contained FIPS State and county codes as well as area names.

The *map index* file (1 reel, 6,250 or 1,600 bpi) issued in the spring of 1982 related 1980 census map numbers to applicable geographic codes—FIPS State and county, MCD/CCD, place, and census tract/BNA (block-numbering area). This file also was created originally to help in internal census operations.

Other Tape Products

The 1-reel *Residential Finance Survey, 1981* tape, issued in December 1983, provided data on homeowner properties from this component of the 1980 census (see printed report, series HC80-5, for details). It covered the United States, census regions, and two States—California and New York.

The multireel *County-to-County Migration Flows* files, released in the summer of 1984, were summary tapes, by State and the District of Columbia, of the data tabulated from the place-of-work and migration responses on the 1980 census household sample questionnaire, cross-tabulated by race, Spanish origin, and a number of sample characteristics, such as income. The tapes provided statistics about migration into and out of counties, as well as on intracounty movers and nonmovers. (The place-of-work and migration responses were coded for only about half of the sample cases nationally (see discussion

in chs. 5 and 6), while the other sample responses were fully coded. Accordingly, figures in this file could differ from those derived from the public-use microdata sample.)

A related file, *County Migration by Selected Characteristics, 1975-1980*, displayed on a 1-reel national tape sample gross out- and immigration data for each county by age (18 5-year groups), modified race (total, White, Black), and sex. In-migrants were tabulated by country of birth, sex, and race (three categories) and detail was provided for persons in the Armed Forces and/or attending college, by group-quarters status. This file was released in the summer of 1985.

Another 1-reel file, *Number of Workers by County of Residence by County of Work*, identified the number of persons, by areas of residence and work, who were employed and at work during the census reference week. The tape covered all counties and county equivalents in the United States and Puerto Rico; it was released in early 1984. A similar tape, *Inter-County Migrant File*, was issued in January 1986; it provided a count of persons living in a specified county or county equivalent in the United States and the District of Columbia who were residents of a different county or county equivalent in 1975. Movers from abroad were not included.

To meet the requirements of Public Law 94-171, which directed the Census Bureau to provide each State, by April 1, 1981, population counts suitable for congressional redistricting and legislative reapportionment and redistricting, a separate tape was issued for each State and the District of Columbia. (See p. 29 for discussion.) This tape displayed a count of the total population down to the block level, and included election precincts in States or portions of States that participated with the Bureau in a voluntary delineation program. The tapes also contained provisional figures for five racial categories and for persons of Spanish/Hispanic origin.

This file was followed in the summer of 1981 by a 1-reel release, *Person and Housing Unit Counts for Tracts and Minor Civil Divisions*. Detail included total population, population in group quarters, total housing units, and occupied housing units.

Three files, issued in the winter of 1982-83 and the spring of 1983 dealt with county populations. *County Population by Age, Sex, Race, and Spanish Origin* (1 reel at 6,250 bpi or 4 reels at 1,600 bpi) covered all persons and housing units in the United States and contained a table for single years of age (up to 75+) for total, male, and female that was repeated for each 21 provisional race/Hispanic groups in the geographic area. *County Population by Age, Sex, Race, and Spanish Origin (Preliminary OMB-Consistent Modified Race)* was similar, except that the age tables were repeated for each of three race groups (White, Black, and Other) and two Spanish-origin groups (not Spanish, Spanish origin). *Group Quarters Population by Age, Sex, Race, and Spanish Origin* resembled those above, except that it was limited to persons living in group quarters.

As for 1970, the Census Bureau compiled a *Spanish Surname List* on tape (1 reel) for 1980 from approximately 85 million 1977 Federal tax returns. The 1980 file contained 12,497 surnames, condensed from 1.4 million and tabulated for 858 geographic areas, and was used in census processing.

Equal Employment Opportunity (EEO) Special Files for all persons in the civilian labor force were released in the fall of 1982 for the United States (1 reel per State) and in the following spring for Puerto Rico (1 reel). Tabulations were provided down to the level of places of 50,000 or more population. There were two tables—detailed occupation (514 categories) by sex, and school completed by age and sex. The U.S. tables were repeated by 12 groups that included total civilian labor force and various race classifications; the Puerto Rico tables excluded race. A U.S. summary, in computer-printout form on microfiche, was released for sale in the fall of 1983.

The data from several subject reports from the population census (see series PC80-2, described earlier in this chapter) were released on tape. These included PC80-6C, 6D, and 6E, *Journey to Work* (3 reels at 6,250 bpi or 7 reels at 1,600 bpi) in the fall of 1985, and 7C, *Occupation by Industry* (one file for the United States, regions, and divisions—1 reel at 6,250 bpi or 3 reels at 1,600 bpi—and another file for all States—2 reels at 6,250 bpi or 4 reels at 1,600 bpi) in the late summer of 1985. As it had after the 1970 census, the Bureau also produced in 1982 special tabulations called *Urban Transportation Planning Packages* (UTPP's). These UTPP's were tailored to geography specified by local planners and data on the characteristics of households, persons, and workers could be tabulated by areas as small as census tracts or block groups of residence and work. The Department of Transportation funded the overall development of the packages following discussions begun in 1978 between the Bureau and an ad hoc committee representing the Transportation Research Board. Final specifications were developed with the aid of professionals in various State and local agencies.

DATA DISSEMINATION

Scope

In the late 1960's, the Census Bureau increased attention to marketing its products, in the sense of heightening the awareness of data users outside the Federal Government to the range of products available. The primary role here was assigned to those units that became in 1971 what is now the Data User Services Division (DUSD). The Data Access and Use Laboratory produced technical documentation for the 1970 census summary tapes, organized tape users' conferences, gave official recognition to some 180 summary-tape processing centers, and generally provided data users with informational materials. The Census Use Study, concerned with research and new data applications, particularly among tape users, was phased out

during the 1970's. The Bureau's overall emphasis in that decade was on access to and use of existing data. In the 5 years through 1980, the division was expanded to include a User Training Branch, a Systems and Programming Staff, another staff to organize and service State data centers (see below), a Subscriber Services Section (transferred from the Administrative Services Division), and the National Services Program (transferred from the Decennial Census Division). The Data Access and Use Staff and the Customer Services Branch continued the division's original functions.

Aside from the 1980 census publication program described earlier, which included such items as DUSD's *Users' Guide*, information about the census results and their availability appeared in DUSD's annual *Catalog and Guide*; *Factfinder for the Nation* series of brochures; *Data Developments* (descriptions of tape and microform products); *Census '80: Continuing the Factfinder Tradition* and other materials for classroom use disseminated by the Training Branch's College Curriculum Support Project; monthly *Data User News* (subscription; name changed in 1988 to *Census and You*) and *Monthly Product Announcement* (free); and brochures such as "1980 Census and You" and "Neighborhood Statistics From the 1980 Census." (DUSD also produced statistical reports, such as the annual *Statistical Abstract of the United States* and its periodic supplements, the *County and City Data Book* and the *State and Metropolitan Area Data Book*, all of which contained and referenced 1980 census data.)

The Training Branch planned, developed, and coordinated the Bureau's user education and training program, which consisted of courses, seminars, workshops, and conferences, and produced the necessary instructional materials. Branch staff conducted several dozen courses each year for such data users as planners, librarians, teachers, reporters, and the like; in the 1980's, information specialists in the Bureau's regional offices took over many of the presentation functions as they scheduled workshops and other activities within their regions. The Training Branch also administered the Bureau's general exhibit program, designing and disseminating the necessary modules for the various conferences around the country at which the Bureau would be represented, especially those where census data users would be gathered in large numbers.

The National Services Program planned and conducted the Census Bureau's formal liaison with nationally based minority organizations, including national social service, business, professional, civil rights, educational, and religious groups. It conducted or coordinated briefings, workshops, and presentations to assist these organizations in obtaining and using data—primarily from the decennial census. In doing that, it promoted the sale and use of 1980 census reports, computer tapes, and other data products and services. The NSP also coordinated the Bureau's promotional activities with those of the various organizations with regard to the census.

The Bureau's regional user services program also was expanded. In 1977, each of the 12 regional offices began with

one data user services specialist; by the mid-1980's, each had an information services coordinator, from two to four information services specialists, and one or two support-staff members. Thus, many of the training and contact functions DUSD had begun from Bureau headquarters were subsequently carried out at the regional level. The regional offices also kept copies of selected reports on file for customers' reference, as did the 47 Commerce Department field offices. All had publication order forms (POF's) for the various report series; POF's also were mailed to data users and potential users (their names and addresses were compiled on computer tape).

The Government Printing Office distributed selected reports to approximately 1,400 Government depository libraries, usually universities, in various parts of the country. The largest libraries received complete sets of publication series, while others were limited to those reports relevant to their region or State. The Census Bureau supplemented this distribution with copies for 134 census depository libraries—usually public libraries in smaller cities or isolated locales.

State Data Center (SDC) Program

The SDC program was a cooperative effort between the Census Bureau and the various States established in 1978 to make census information and data (here, primarily from the 1970 and 1980 censuses) available to the public through a network of State agencies, universities, libraries, and regional and local governments. The program objectives were to provide training and technical assistance in accessing and using these data for research, administration, planning, and decision-making by the government and business communities, university researchers, and other interested data users. In doing so, the SDC program would improve access to and extend the use of Census Bureau statistical resources and related products, including computerized data.

Agreements were made with the States of Alabama, Arizona, Louisiana, and North Carolina in 1978; 11 more States were added in 1979, 16 in 1980, 11 in 1981, 7 in 1982, 3 in 1983, and 1 (Wyoming) in 1986. Thus, all the States, plus the District of Columbia, Puerto Rico, Guam (1988), and the Virgin Islands, were involved, together with approximately 1,100 affiliates.

SDC organization varied from State to State, but usually involved a major State executive or planning agency, one or more major State universities, and the State Library. These units determined the exact structure of the individual State programs and served as the SDC's principal service, delivery, and coordinating units. In addition to this "umbrella" structure, each State developed a network of affiliate data centers, such as regional and local planning agencies, and public and university libraries, thus multiplying the effort to expand everyone's access and use of census data.

Each SDC provided staff and budget support for maintaining library facilities, with emphasis on reference materials and Census reports and maps, handled inquiries regarding Census

statistics, and offered user training such as workshops on accessing and using the data. They also offered data-processing services related to census data in machine-readable form, consulted on data use, assisted data users in various ways, and carried out promotional activities. The affiliates acted in their own areas much as their lead or coordinating agencies at the State level. This nationwide network responded to over a half million inquiries for census information each year beginning in 1985.

The Census Bureau, on its part, supported the SDC program through DUSD's State and Regional Programs Staff and the regional offices by supplying a full range of data products, including publications, computer tapes, software, maps, and microfiche at no cost. Usually these materials were for the particular State, but the State-level coordinating agencies received data for neighboring States as well. The Bureau also provided training and technical consultation and assistance.

Appendix 8A. 1980 Census of Population and Housing Publication Reports

Publication Schedule and Index to Detail on Selected Series

Series number	Report	Number of reports	Release dates	Detail, see page
PC80-1-A	Number Of Inhabitants	58	10/81-1/8340	41
PC80-1-B	General Population Characteristics	58	4/82-7/83	
PC80-1-C	General Social and Economic Characteristics	54	7/83-9/84	43
PC80-1-D	Detailed Population Statistics	54	10/83-1/85	
PC80-1-C/D	Detailed Population Statistics (Outlying Areas)	4	12/84-1/85	45
PC80-2	Subject Reports	40	6/84-2/88	46
PC80-S1	Supplementary Reports	21	5/81-3/86	47
HC80-1-A	General Housing Characteristics	58	6/82-8/83	48
HC80-1-B	Detailed Housing Characteristics	58	7/83-7/84	
HC80-2	Metropolitan Housing Characteristics	375	10/83-10/84	50
HC80-3	Subject Reports	5	10/84-9/85	59
HC80-4	Components of Inventory Change	2	10/83-1/84	59
HC80-5	Residential Finance	1	1/84	59
HC80-S1	Supplementary Reports	2	10/81-6/83	59
PHC80-1	Block Statistics	374	2/82-12/82	60
PHC80-2	Census Tracts	372	7/83-11/83	69
PHC80-3	Summary Characteristics of Governmental Units	52	10/82-12/82*	78
PHC80-4	Congressional Districts of the 98th Congress	51	3/83-5/83	80
PHC80-4	Congressional Districts of the 99th Congress	10	5/84-3/85	81
PHC80-4	Congressional Districts of the 100th Congress	1	5/86	81
PHC80-E	Population and Housing Evaluation Reports	4	8/85-	81
PHC80-P	Preliminary Population and Housing Unit Counts	56	11/80-1/81	82
PHC80-R	(General and reference reports)	5	1980-	-
No series	Census Tract Street Indexes	278	1980	-
No series	Congressional District Atlas	2	1983, 1985	-
PHC80-SP	Special Reports (Neighborhood Statistics)	1,292	1983-1984	-
PHC80-S	Supplementary Reports			-
	Provisional Estimates (1.6-percent subsample)	1	4/82	-
	Advance Estimates	51	9/82-4/83	-
PHC80-V	Final Population and Housing Unit Counts	56	3/81-4/81	84

- Not shown.

* The Puerto Rico report was not issued until 6/83.

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Population Series PC80-1-A, -B Reports

Area	Report number	PC80-1-A, Number of Inhabitants			PC80-1-B, General Population Characteristics		
		Release date	Number of pages	Price (dollars)	Release date	Number of pages	Price (dollars)
U.S. Summary	1	6/83	289	6.00	7/83	363	6.50
Alabama	2	5/82	51	3.25	8/82	122	7.50
Alaska	3	12/81	39	3.00	9/82	112	5.50
Arizona	4	3/82	38	3.00	5/82	151	6.00
Arkansas	5	3/82	53	4.25	9/82	228	7.50
California	6	3/82	92	5.00	10/82	790	13.00
Colorado	7	12/81	45	3.00	6/82	217	7.00
Connecticut	8	1/82	44	3.00	6/82	248	7.50
Delaware	9	2/82	33	2.75	8/82	108	5.50
District of Columbia	10	3/82	33	2.75	9/82	88	5.50
Florida	11	3/82	73	4.75	9/82	283	11.00
Georgia	12	2/82	63	4.50	9/82	322	8.50
Hawaii	13	12/81	36	2.75	8/82	116	5.50
Idaho	14	6/82	38	3.25	6/82	136	6.00
Illinois	15	3/82	91	5.00	10/82	511	11.00
Indiana	16	3/82	66	4.50	10/82	340	9.00
Iowa	17	3/82	65	4.50	9/82	291	8.00
Kansas	18	1/82	62	4.50	7/82	250	7.50
Kentucky	19	3/82	55	4.25	10/82	292	8.50
Louisiana	20	3/82	48	3.25	7/82	237	7.50
Maine	21	6/82	45	3.00	8/82	171	6.50
Maryland	22	3/82	51	3.25	9/82	250	7.50
Massachusetts	23	1/82	52	4.25	8/82	339	9.00
Michigan	24	3/82	74	4.75	11/82	563	11.00
Minnesota	25	3/82	68	4.50	10/82	212	8.50
Mississippi	26	3/82	48	3.25	9/82	210	7.00
Missouri	27	3/82	70	4.75	10/82	316	8.50
Montana	28	10/81	38	3.00	4/82	135	6.00
Nebraska	29	1/82	53	4.25	8/82	218	7.00
Nevada	30	12/81	48	2.75	7/82	112	5.50
New Hampshire	31	12/81	42	3.00	6/82	161	6.50
New Jersey	32	3/82	68	4.50	10/82	487	11.00
New Mexico	33	2/82	38	3.00	7/82	152	6.50
New York	34	3/82	82	4.75	11/82	748	12.00
North Carolina	35	3/82	61	4.50	8/82	281	8.00
North Dakota	36	1/82	46	3.25	9/82	174	6.50
Ohio	37	3/82	77	4.75	11/82	472	11.00
Oklahoma	38	2/82	50	3.25	8/82	227	7.50
Oregon	39	1/82	46	3.25	10/82	196	7.00
Pennsylvania	40	3/82	91	5.00	11/82	719	12.00
Rhode Island	41	11/81	37	3.00	4/82	138	6.00

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Population

Series PC80-1-A, -B Reports—Con.

Area	Report number	PC80-1-A, Number of Inhabitants			PC80-1-B, General Population Characteristics		
		Release date	Number of pages	Price (dollars)	Release date	Number of pages	Price (dollars)
South Carolina	42	1/82	48	3.25	9/82	206	7.00
South Dakota	43	2/82	47	3.25	9/82	167	6.50
Tennessee	44	3/82	55	4.25	9/82	268	8.00
Texas	45	4/82	108	5.50	11/82	814	13.00
Utah	46	2/82	40	3.00	7/82	147	5.50
Vermont	47	11/81	36	2.75	4/82	117	5.50
Virginia	48	3/82	59	4.50	10/82	351	9.00
Washington	49	3/82	52	3.25	11/82	264	7.50
West Virginia	50	3/82	44	3.00	9/82	184	7.00
Wisconsin	51	3/82	66	4.50	10/82	378	7.50
Wyoming	52	12/81	37	2.75	6/82	110	5.50
Puerto Rico							
(English and	53A	7/82	90	5.50	7/83	285	7.00
Spanish)	53B	7.00					
Virgin Islands of the U.S.	55	1/83	23	3.50	5/83	58	4.25
Guam	54	1/83	23	3.50	5/83	50	4.00
American Samoa	56	1/83	23	3.50	5/83	65	4.50
Northern Mariana Islands	57A	1/83	24	3.50	5/83	38	3.75
Trust Territory of the Pacific Islands (excluding the Northern Mariana Islands)	57B	1/83	49	4.75	6/83	124	5.00

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Population Series PC80-1-C, -D Reports

Area	Report number	Release date	PC80-1-C, General Social and Economic Characteristics		Release date	PC80-1-D, Detailed Characteristics	
			Number of pages	Price (dollars)		Number of pages	Price (dollars)
U.S. Summary	1	4/84	591	14.00	-	-	-
U.S. Summary, Section A	1	-	-	-	5/84	729	14.00
U.S. Summary, Section B	1	-	-	-	5/84	702	14.00
Regions 1 of 2	1	-	-	-	5/84	827	15.00
U.S. Summary, Section C	1	-	-	-	5/84	902	15.00
Alabama	2	8/83	596	5.50	12/83	1,083	11.00
Alaska	3	7/83	297	7.50	10/83	427	6.50
Arizona	4	8/83	350	4.50	12/84	867	11.00
Arkansas	5	8/83	534	5.00	1/84	721	14.00
California	6	9/83	Section 1, 722 Section 2, }	8.00 per set	1/84	Section 1, 850 Section 2, 820 Section 3, 764 Section 4, 980 }	31.00 per set
Colorado	7	7/83	424	10.00	11/85	864	10.00
Connecticut	8	9/83	554	5.50	12/84	1,096	11.00
Delaware	9	9/83	277	4.25	1/84	573	13.00
District of Columbia	10	8/83	205	4.25	1/84	556	13.00
Florida	11	8/83	Section 1, 468 Section 2, 528 }	7.00 per set	12/83	Section 1, 696 Section 2, 733 Section 3, 796 }	19.00 per set
Georgia	12	8/83	892	6.00	1/83	1,072	19.00
Hawaii	13	7/83	271	7.00	11/83	661	8.50
Idaho	14	7/83	308	7.50	11/83	333	6.00
Illinois	15	10/83	Section 1, 488 Section 2, 445 }	7.00 per set	10/83	Section 1, 609 Section 2, 604 }	20.00 per set
Indiana	16	10/83	685	6.00	1/84	Section 1, 703 Section 2, 736 }	22.00 per set
Iowa	17	10/83	588	5.50	1/84	814	15.00
Kansas	18	8/83	514	5.50	11/83	768	9.00
Kentucky	19	9/83	669	5.50	1/84	Section 1, 600 Section 2, 516 }	18.00 per set
Louisiana	20	7/83	585	10.00	12/83	955	10.00
Maine	21	7/83	361	8.00	11/83	272	5.50
Maryland	22	9/83	600	5.50	2/84	1,014	18.00
Massachusetts	23	8/83	691	6.00	1/84	Section 1, 643 Section 2, 588 }	13.00 per set
Michigan	24	10/83	Section 1, 492 Section 2, 474 }	7.00 per set	1/84	Section 1, 872 Section 2, 806 }	22.00 per set
Minnesota	25	9/83	558	5.50	2/84	873	15.00
Mississippi	26	8/83	547	5.50	1/84	704	14.00

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Population

Series PC80-1-C, -D Reports—Con.

Area	Report number	Release date	PC80-1-C, General Social and Economic Characteristics		Release date	PC80-1-D, Detailed Characteristics	
			Number of pages	Price (dollars)		Number of pages	Price (dollars)
Missouri	27	8/83	656	5.50	1/84	786	9.50
Montana	28	7/83	332	7.50	10/83	428	6.50
Nebraska	29	8/83	426	5.00	1/84	628	14.00
Nevada	30	7/83	272	4.25	12/83	639	8.50
New Hampshire	31	7/83	382	4.50	12/83	364	6.00
New Jersey	32	10/83	884	6.00	2/84	Section 1, 719 Section 2, 747 Section 3, 720	25.00 per set
New Mexico	33	7/83	336	7.50	1/84	625	8.50
New York	34	9/83	Section 1, 776 Section 2, 608	7.50 per set	1/84	Section 1, 985 Section 2, 950	24.00 per set
North Carolina	35	8/83	741	6.00	1/84	Section 1, 616 Section 2, 344	14.00 per set
North Dakota	36	9/83	332	4.50	1/84	272	6.50
Ohio	37	9/83	Section 1, 600 Section 2, 368	7.00 per set	2/84	Section 1, 1,049 Section 2, 1,044	24.00 per set
Oklahoma	38	8/83	539	5.50	12/83	880	15.00
Oregon	39	10/83	411	4.75	1/84	875	14.00
Pennsylvania	40	10/83	Section 1, 604 Section 2, 596	7.50 per set	2/84	Section 1, 984 Section 2, 962	24.00 per set
Rhode Island	41	7/83	342	4.50	2/84	542	8.00
South Carolina	42	8/83	525	5.50	1/84	Section 1, 556 Section 2, 525	19.00 per set
South Dakota	43	8/83	338	4.50	1/84	436	9.50
Tennessee	44	10/83	646	5.50	1/84	Section 1, 619 Section 2, 596	20.00 per set
Texas	45	9/83	Section 1, 744 Section 2, 768	8.00 per set	1/84	Section 1, 957 Section 2, 974	24.00 per set
Utah	46	7/83	313	7.50	11/83	465	6.50
Vermont	47	7/83	279	7.00	10/83	280	5.50
Virginia	48	9/83	831	6.00	1/84	Section 1, 644 Section 2, 696	20.00 per set
Washington	49	12/83	532	5.50	1/84	Section 1, 618 Section 2, 599	17.00 per set
West Virginia	50	10/83	431	4.75	1/84	652	14.00
Wisconsin	51	10/83	696	6.00	1/84	Section 1, 600 Section 2, 588	20.00 per set
Wyoming	52	7/83	262	6.50	10/83	269	5.50
Puerto Rico							
(English and	53A	3/84	293	6.50	9/84	512	16.00
Spanish)	53B	7/84	332	9.50			
Puerto Rico	55	9/84	152	5.50	1/85	176	5.50

— Means not applicable.

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Population Series PC80-1-C/D Reports

Area	PC80-1-C, General Social and Economic Characteristics and PC80-1-D, Detailed Characteristics (combined)			
	Report number	Release date	Number of pages	Price (dollars)
Guam	54	12/84	76	3.00
American Samoa	56	12/84	200	5.50
Northern Mariana Islands	57A	12/84	76	3.00
Trust Territory of the Pacific Islands (excluding the Northern Mariana Islands)	57B	1/85	320	9.00

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Population

Series PC80-2, Subject Reports

Title	Report number	Release date	Number of pages	Price (dollars)
Black Population	1A	—	Cancelled	—
Persons of Spanish Origin or Surname	1B	—	Cancelled	—
American Indians, Eskimos, and Aleuts in the United States	1C	—	Cancelled	—
American Indians, Eskimos, and Aleuts: Reservations and Historic Areas of Oklahoma	1D	—	—	—
Part 1	—	12/85	192	7.00
Part 2, Section 1	—	3/86	648	23.00
Part 2, Section 2	—	3/86	612	22.00
Asian and Pacific Islander Population (modified version)	1E	—	—	—
Section 1 of 2	—	2/88	578	27.00
Section 2 of 2	—	2/88	434	21.00
Ancestry of the Population	1F	—	Cancelled	—
Persons Born in Foreign Countries	1G	—	Cancelled	—
Language Usage in the United States	1H	—	Cancelled	—
Geographic Mobility for States and the Nation	2A	10/85	924	25.00
Lifetime and Recent Migration	2B	—	Cancelled	—
Geographical Mobility for Metropolitan Areas	2C	12/84	772	14.00
Fertility	3A	—	Cancelled	—
Household and Family Composition	4A	—	Cancelled	—
Living Arrangements of Children and Adults	4B	6/85	152	5.50
Marital Characteristics	4C	4/85	368	13.00
Persons in Institutions and Other Group Quarters	4D	12/84	912	15.00
Education	5A	—	Cancelled	—
Labor Force Status and Work Experience	6A	—	Cancelled	—
Persons Not Employed	6B	—	Cancelled	—
Journey to Work: Metropolitan Commuting Flows	6C	6/84	595	14.00
Journey to Work: Characteristics of Workers in Metropolitan Areas	6D	—	—	—
Section 1 of 3	—	11/84	1,188	28.00
Section 2 of 3	—	11/84	964	22.00
Section 3 of 3	—	11/84	912	22.00
Place of Work	6E	7/84	1,039	19.00
Occupational Characteristics	7A	—	Cancelled	—
Industrial Characteristics	7B	—	Cancelled	—
Occupation by Industry	7C	7/84	711	14.00
Government Workers	7D	—	Cancelled	—
Sources and Structure of Household and Family Income	8A	—	Cancelled	—
Earnings by Occupation and Education	8B	6/84	540	13.00
Characteristics of the Poverty Population	8C	—	Cancelled	—
Poverty Areas in Large Cities	8D	4/85	748	14.00
Characteristics of Metropolitan-Nonmetropolitan Population	9A	—	Cancelled	—
Persons by Census Tract Characteristics	9B	—	Cancelled	—
Characteristics of the Rural and Farm-Related Population	9C	8/85	244	8.50
Older Population	9D	—	Cancelled	—
Women	9E	—	Cancelled	—
Veterans	9F	—	Cancelled	—

— Means not applicable.

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Population

Series PC80-S1, Supplementary Reports

Title	Report number	Release date	Number of pages	Price (dollars)
Age, Sex, Race, and Spanish Origin of the Population by Regions, Divisions, and States: 1980	S1-1	5/81	6	2.00
Population and Households by States and Counties: 1980	S1-2	1981	23	3.25
Race of the Population by States: 1980	S1-3	1981	14	2.00
Population and Households for Census Designated Places: 1980	S1-4	1981	42	3.25
Standard Metropolitan Statistical Areas and Standard Consolidated Statistical Areas: 1980	S1-5	1981	68	4.75
Nonpermanent Residents by States and Selected Counties and Incorporated Places: 1980	S1-6	1982	29	3.50
Persons of Spanish Origin by State: 1980	S1-7	1982	20	3.25
Detailed Occupation and Years of School Completed by Age, for the Civilian Labor Force by Sex, Race, and Spanish Origin: 1980	S1-8	4/83	33	4.50
State of Residence in 1975 by State of Residence in 1980	S1-9	3/83	10	2.25
Ancestry of the Population by State: 1980	S1-10	6/83	87	4.50
Congressional District Profiles, 98th Congress	S1-11	11/83	57	3.50
Asian and Pacific Islander Population by State: 1980	S1-12	1/84	26	1.50
American Indian Areas and Alaska Native Villages: 1980	S1-13	9/84	44	2.75
Population and Land Area of Urbanized Areas for the United States and Puerto Rico: 1980 and 1970	S1-14	4/84	478	12.00
Detailed Occupation of the Experienced Civilian Labor Force by Sex for the United States and Regions: 1980 and 1970	S1-15	4/84	53	2.25
Residence in 1975 for States by Age, Sex, Race, and Spanish Origin: 1980	S1-16	4/84	342	9.50
Gross Migration for Counties: 1975 to 1980	S1-17	4/84	248	7.00
Metropolitan Statistical Areas (as defined by the Office of Management and Budget in 1963)	S1-18	2/85	188	5.50
Rural and Farm Population by Current (1980) and Previous (1970 Farm Definitions, for States and Counties: 1980	S1-19	5/85	24	1.00
Selected Characteristics of Persons With a Work Disability by State: 1980	S1-20	12/85	140	5.00
Summary Characteristics of the Black Population for States and Selected Counties and Places: 1980	S1-21	3/86	80	4.00

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Housing Series HC80-1-A, -B Reports

Area	Report number	HC80-1-A, General Housing Characteristics			HC80-1-B, Detailed Housing Characteristics		
		Release date	Number of pages	Price (dollars)	Release date	Number of Pages	Price (dollars)
U.S. Summary	1	9/83	287	6.50	4/84	353	8.50
Alabama	2	8/82	224	7.50	7/83	240	4.25
Alaska	3	8/82	112	5.50	7/83	129	3.75
Arizona	4	6/82	156	6.50	7/83	145	3.75
Arkansas	5	9/82	231	7.50	8/83	216	4.25
California	6	8/83	814	13.00	8/83	561	5.50
Colorado	7	6/82	216	7.00	7/83	180	6.00
Connecticut	8	7/82	233	7.50	8/83	227	4.25
Delaware	9	8/82	113	5.50	8/83	119	3.75
District of Columbia	10	9/82	90	5.50	8/83	101	3.75
Florida	11	11/82	501	11.00	9/83	406	4.75
Georgia	12	9/82	331	9.00	7/83	358	4.50
Hawaii	13	8/82	118	5.50	7/83	121	5.00
Idaho	14	6/82	130	6.00	7/83	139	5.50
Illinois	15	11/82	501	11.00	9/83	390	4.75
Indiana	16	9/82	339	9.00	9/83	271	4.25
Iowa	17	10/82	281	8.00	8/83	232	4.25
Kansas	18	8/82	242	7.50	7/83	207	4.25
Kentucky	19	9/82	299	8.50	8/83	274	4.25
Louisiana	20	6/83	245	7.50	7/83	246	6.50
Maine	21	4/82	159	6.50	7/83	154	5.50
Maryland	22	11/82	266	7.50	8/83	237	4.25
Massachusetts	23	8/82	299	8.50	7/83	269	7.00
Michigan	24	10/82	524	11.00	9/83	397	5.25
Minnesota	25	9/82	289	8.00	8/83	237	4.25
Mississippi	26	8/82	221	7.50	8/83	227	4.25
Missouri	27	9/82	310	8.50	8/83	262	4.25
Montana	28	6/82	132	6.00	8/83	145	4.00
Nebraska	29	9/82	221	7.50	8/83	187	4.00
Nevada	30	7/82	115	5.50	7/83	121	3.75
New Hampshire	31	9/82	154	6.50	7/83	150	3.75
New Jersey	32	11/82	480	11.00	8/83	342	5.00
New Mexico	33	8/82	160	6.50	7/83	147	3.75
New York	34	11/82	672	12.00	8/83	482	5.50
North Carolina	35	9/82	275	8.00	7/83	296	7.50
North Dakota	36	9/82	172	6.50	8/83	154	3.75
Ohio	37	10/82	456	11.00	9/83	377	4.50
Oklahoma	38	8/82	216	7.00	7/83	222	4.25
Oregon	39	10/82	189	7.00	9/83	169	4.00
Pennsylvania	40	11/82	636	12.00	8/83	472	5.25
Rhode Island	41	6/82	139	6.00	6/83	152	5.50

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Housing

Series HC80-1-A, -B Reports—Con.

Area	Report number	HC80-1-A, General Housing Characteristics			HC80-1-B, Detailed Housing Characteristics		
		Release date	Number of pages	Price (dollars)	Release date	Number of Pages	Price (dollars)
South Carolina	42	10/82	214	7.00	7/83	214	4.25
South Dakota	43	9/82	169	6.50	8/83	149	3.75
Tennessee	44	9/82	278	8.00	9/83	253	4.25
Texas	45	11/82	870	14.00	8/83	609	5.50
Utah	46	8/82	141	6.00	8/83	134	3.75
Vermont	47	6/82	119	5.50	7/83	136	3.75
Virginia	48	10/82	364	9.00	8/83	336	4.50
Washington	49	10/82	257	7.50	9/83	217	4.25
West Virginia	50	9/82	188	7.00	9/83	187	4.25
Wisconsin	51	8/82	365	9.00	9/83	283	4.25
Wyoming	52	7/82	112	5.50	7/83	115	5.00
Puerto Rico							
(English and	53A	8/83	138	7.50	3/84	126	4.00
Spanish)	53B	3/84	116	7.50	7/84	136	4.75
Guam	54	6/83	52	4.00	7/84	56	2.25
Virgin Islands of the U.S.	55	6/83	74	4.50	4/84	66	2.75
American Samoa	56	6/83	73	4.50	7/84	76	3.00
Northern Mariana Islands	57A	6/83	38	3.75	6/84	36	2.25
Trust Territory of the Pacific Islands (excluding the Northern Mariana Islands)	57B	6/83	136	5.00	7/84	140	5.00

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Housing

Series HC80-2, Metropolitan Housing Characteristics

Area	Report number	Release date	Number of pages	Price (dollars)
United States Summary	1	6/84	1,061	18.00
Alabama	2	1/84	184	4.50
Alaska	3	1/84	128	4.00
Arizona	4	2/84	260	6.50
Arkansas	5	1/84	176	4.25
California	6	2/84	256	6.00
Colorado	7	11/83	252	6.50
Connecticut	8	12/83	220	6.00
Delaware	9	1/84	156	4.25
District of Columbia	10	(see 365)	—	—
Florida	11	1/84	244	6.00
Georgia	12	1/84	211	6.00
Hawaii	13	11/83	216	6.00
Idaho	14	12/83	128	5.00
Illinois	15	1/84	252	6.00
Indiana	16	1/84	211	6.00
Iowa	17	1/84	208	6.00
Kansas	18	1/84	220	6.00
Kentucky	19	1/84	184	4.25
Louisiana	20	12/83	240	6.50
Maine	21	11/83	96	4.50
Maryland	22	1/84	128	6.00
Massachusetts	23	12/83	228	6.50
Michigan	24	2/84	244	6.00
Minnesota	25	10/83	252	6.00
Mississippi	26	12/83	176	5.50
Missouri	27	12/83	228	6.50
Montana	28	11/83	120	5.00
Nebraska	29	1/84	196	4.50
Nevada	30	11/83	228	6.50
New Hampshire	31	11/83	96	4.50
New Jersey	32	1/84	220	6.00
New Mexico	33	2/84	196	6.00
New York	34	1/84	250	4.25
North Carolina	35	2/84	233	6.00
North Dakota	36	1/84	120	3.75
Ohio	37	2/84	244	6.00
Oklahoma	38	1/84	252	6.00
Oregon	39	2/84	244	6.00
Pennsylvania	40	1/84	222	6.00
Rhode Island	41	11/83	196	6.00
South Carolina	42	2/84	187	4.50
South Dakota	43	2/84	112	3.75
Tennessee	44	12/83	220	6.00
Texas	45	2/84	255	6.00
Utah	46	11/83	184	6.00

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Housing

Series HC80-2, Metropolitan Housing Characteristics—Con.

Area	Report number	Release date	Number of pages	Price (dollars)
Vermont	47	11/83	96	4.50
Virginia	48	11/83	228	6.50
Washington	49	2/84	201	6.00
West Virginia	50	1/84	176	4.00
Wisconsin	51	1/84	240	6.00
Wyoming	52	11/83	108	4.75
Puerto Rico				
(English and	53A	8/84	116	4.50
Spanish)	53B	10/84	116	4.50
Guam—Not published	54	—	—	—
Virgin Islands of the U.S.—Not published	55	—	—	—
American Samoa—Not published	56	—	—	—
Trust Territory of the Pacific Islands (excluding the Northern Mariana Islands)—Not published	57	—	—	—
Abilene, TX	58	2/84	100	3.75
Akron, OH	59	1/84	120	4.00
Albany, GA	60	1/84	128	4.00
Albany-Schenectady-Troy, NY	61	1/84	144	4.00
Albuquerque, NM	62	11/83	134	5.50
Alexandria, LA	63	11/83	128	5.00
Allentown-Bethlehem-Easton, Pa-NJ	64	12/83	120	5.00
Altoona, PA	65	1/84	78	2.50
Amarillo, TX	66	1/84	108	3.75
Anaheim-Santa Ana-Garden Grove, CA	67	1/84	404	9.00
Anchorage, AL	68	12/83	84	4.50
Anderson, IN	69	1/84	100	3.75
Anderson, SC	70	1/84	128	4.00
Ann Arbor, MI	71	1/84	128	4.00
Anniston, AL	72	1/84	122	4.00
Appleton-Oshkosh, WI	73	1/84	90	2.50
Arecibo, PR-A (English)	74A	8/84	92	3.25
Arecibo, PR-B (Spanish)	74B	8/84	94	3.25
Asheville, NC	75	1/84	128	5.00
Athens, GA	76	1/84	128	4.00
Atlanta, GA	77	1/84	144	4.00
Atlantic City, NJ	78	12/83	128	5.00
Augusta, GA-SC	79	2/84	156	4.25
Austin, TX	80	2/84	144	4.00
Bakersfield, CA	81	1/84	144	4.00
Baltimore, MD	82	1/84	208	6.00
Bangor, ME	83	11/83	84	4.50
Baton Rouge, LA	84	11/83	128	5.00
Battle Creek, MI	85	1/84	122	4.00
Bay City, MI	86	1/84	84	2.50

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Series HC80-2, Metropolitan Housing Characteristics—Con.

Area	Report number	Release date	Number of pages	Price (dollars)
Beaumont-Port Arthur-Orange, TX	87	1/84	108	6.00
Bellingham, WA	88	1/84	78	2.50
Benton Harbor, MI	89	4/84	122	4.00
Billings, MT	90	12/83	84	4.50
Biloxi-Gulfport, MS	91	12/83	164	5.50
Binghamton, NY-PA	92	10/83	84	2.50
Birmingham, AL	93	1/84	128	4.00
Bismarck, ND	94	1/84	78	2.50
Bloomington, IN	95	1/84	78	2.50
Bloomington-Normal, IL	96	1/84	96	2.50
Boise City, ID	97	11/83	84	4.50
Boston, MA	98	12/83	282	7.00
Bradenton, FL	99	1/84	122	4.00
Bremerton, WA	100	1/84	84	2.50
Bridgeport, CT	101	12/83	152	5.50
Bristol, CT	102	11/83	84	4.50
Brockton, MA	103	11/83	84	4.50
Brownsville-Harlingen- San Benito, TX	104	1/84	146	4.00
Bryan-College Station, TX	105	1/84	164	4.25
Buffalo, NY	106	1/84	191	4.75
Burlington, NC	107	12/83	128	5.50
Burlington, VT	108	1/84	78	4.50
Caguas, PR (English)	109A	8/84	92	3.25
Caguas, PR (Spanish)	109B	9/84	92	3.25
Canton, OH	110	1/84	122	4.00
Casper, WY	111	11/83	84	4.50
Cedar Rapids, IA	112	1/84	84	2.50
Champaign-Urbana-Rantoul, IL	113	1/84	166	4.25
Charleston, N. Charleston, SC	114	1/84	164	4.25
Charleston, WV	115	1/84	128	4.00
Charlotte-Gastonia, NC	116	12/83	184	5.50
Charlottesville, VA	117	1/84	122	4.00
Chattanooga, TN-GA	118	10/83	128	3.75
Chicago, IL	119	2/84	464	9.50
Chico, CA	120	1/84	84	2.50
Cincinnati, OH-KY, IN	121	1/84	122	4.00
Clarksville-Hopkinsville, TN-KY	122	1/84	156	4.25
Cleveland, OH	123	1/84	225	6.00
Colorado Springs, CO	124	11/83	152	5.50
Columbia, MO	125	12/83	84	4.50
Columbia, SC	126	1/84	122	4.00
Columbus, GA-AL	127	2/84	122	4.00
Corpus Christi, TX	129	1/84	144	4.00
Cumberland, MD-VA	130	1/84	84	4.50
Dallas-Ft. Worth, TX	131	1/84	308	7.50

Appendix 8A. 1980 Census of Population and Housing Publication Reports

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Series HC80-2, Metropolitan Housing Characteristics—Con.

Area	Report number	Release date	Number of pages	Price (dollars)
Danbury, CT	132	11/83	79	4.50
Danville, VA	133	1/84	128	4.00
Davenport-Rock Island-Moline, IA	134	1/84	134	4.25
Dayton, OH	135	2/84	134	4.00
Daytona Beach, FL	136	1/84	128	4.00
Decatur, IL	137	1/84	122	4.00
Denver-Boulder, CO	138	11/83	256	6.50
Des Moines, IA	139	1/84	112	4.00
Detroit, MI	140	2/84	368	7.50
Dubuque, IA	141	1/84	84	2.50
Duluth-Superior, MN-WI	142	1/84	96	2.50
Eau Claire, WI	143	1/84	76	2.50
El Paso, TX	144	1/84	152	4.00
Elkhart, IN	145	1/84	108	3.75
Elmira, NY	146	10/83	84	2.50
Enid, OK	147	1/84	78	2.50
Erie, PA	148	1/84	128	4.00
Eugene-Springfield, OR	149	1/84	80	2.50
Evansville, IN-KY	150	1/84	128	4.00
Fall River, MA-RI	151	11/83	84	4.50
Fargo-Moorhead, ND-MN	152	1/84	96	2.50
Fayetteville, NC	153	12/83	128	5.00
Fayetteville-Springdale, AR	154	12/83	96	4.50
Fitchburg-Leominster, MA	155	11/83	95	4.50
Flint, MI	156	1/84	122	4.00
Florence, AL	157	1/84	128	4.00
Florence, SC	158	1/84	122	4.00
Ft. Collins, CO	159	11/83	84	4.50
Ft. Lauderdale-Hollywood, FL	160	1/84	188	4.50
Ft. Myers-Cape Coral, FL	161	1/84	140	4.00
Ft. Smith, AR-OK	162	1/84	84	2.50
Ft. Walton Beach, FL	163	1/84	108	3.75
Ft. Wayne, IN	164	1/84	128	4.00
Fresno, CA	165	1/84	155	4.00
Gadsden, AL	166	1/84	122	4.00
Gainesville, FL	167	2/84	122	4.00
Galveston-Texas City, TX	168	1/84	189	4.75
Gary-Hammond-E. Chicago, IN	169	1/84	208	6.00
Glens Falls, NY	170	1/84	78	2.50
Grand Forks, ND-MN	171	1/84	84	2.50
Grand Rapids, MI	172	1/84	152	4.00
Great Falls, MT	173	11/83	84	4.50
Greeley, CO	174	11/83	108	4.75
Green Bay, WI	175	1/84	84	2.50
Greensboro-Winston-Salem-High Point, NC	176	12/83	196	6.00

Appendix 8A. 1980 Census of Population and Housing Publication Reports

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Series HC80-2, Metropolitan Housing Characteristics—Con.

Area	Report number	Release date	Number of pages	Price (dollars)
Greenville-Spartanburg, SC	177	1/84	156	4.25
Hagerstown, MD	178	12/83	84	4.50
Hamilton-Middletown, OH	179	1/84	140	4.00
Harrisburg, PA	180	1/84	122	4.00
Hartford, CT	181	11/83	152	5.50
Hickory, NC	182	2/84	128	4.00
Honolulu, HI	183	11/83	120	5.50
Houston, TX	184	1/84	212	4.00
Huntington-Ashland, WV-KY-OH	185	1/84	90	2.50
Huntsville, AL	186	1/84	128	4.00
Indianapolis, IN	187	1/84	128	4.00
Iowa City, IA	188	1/84	78	2.50
Jackson, MI	189	1/84	122	4.00
Jackson, MS	190	12/83	128	5.00
Jacksonville, FL	191	1/84	133	4.00
Jacksonville, NC	192	1/84	128	4.00
Janesville-Beloit, WI	193	1/84	110	3.75
Jersey City, NJ	194	1/84	190	4.50
Johnson City-Kingsport-Bristol, TN-VA	195	1/84	108	4.75
Johnstown, PA	196	12/83	84	4.50
Joplin, MO	197	12/83	84	5.50
Kalamazoo-Portage, MI	198	1/84	140	4.00
Kankakee, IL	199	1/84	122	4.00
Kansas City, MO-KS	200	11/83	208	6.00
Kenosha, WI	201	1/84	78	2.50
Killeen-Temple, TX	202	1/84	196	4.75
Knoxville, TN	203	1/84	128	4.00
Kokomo, IN	204	1/84	84	2.50
La Crosse, WI	205	1/84	84	2.50
Lafayette, LA	206	12/83	128	5.00
Lafayette-W. Lafayette, IN	207	1/84	90	2.50
Lake Charles, LA	208	12/83	128	5.00
Lakeland-Winter Haven, FL	209	2/84	164	4.25
Lancaster, PA	210	1/84	79	4.50
Lansing-E. Lansing, MI	211	1/84	152	4.00
Laredo, TX	212	1/84	108	3.75
Las Cruces, NM	213	12/83	108	4.75
Las Vegas, NV	214	11/83	164	5.50
Lawrence, KS	215	1/84	78	2.50
Lawrence-Haverhill, MA-NH	216	12/83	120	5.00
Lawton, OK	217	1/84	112	4.00
Lewiston-Auburn, ME	218	11/83	96	4.50
Lexington-Fayette, KY	219	1/84	128	4.00
Lima, OH	220	1/84	122	4.00
Lincoln, NE	221	1/84	84	4.50

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Series HC80-2, Metropolitan Housing Characteristics—Con.

Area	Report number	Release date	Number of pages	Price (dollars)
Little Rock-N. Little Rock, AR	222	1/84	164	4.25
Long Branch-Asbury Park, NJ	223	1/84	188	4.50
Longview-Marshall, TX	224	1/84	164	4.25
Lorain-Elyria, OH	225	1/84	184	4.50
Los Angeles-Long Beach, CA		1/84		
Section 1 of 2	226	1/84	548	18.00 per set
Section 2 of 2		1/84	560	
Louisville, KY-IN	227	1/84	128	4.00
Lowell, MA-NH	228	11/83	84	4.50
Lubbock, TX	229	2/84	122	4.00
Lynchburg, VA	230	1/84	128	5.00
Macon, GA	231	1/84	122	4.00
Madison, WI	232	1/84	84	2.50
Manchester, NH	233	12/83	84	4.50
Mansfield, OH	234	1/84	91	3.75
Mayaguez, PR-A (English)	235A	8/84	92	3.25
Mayaguez, PR-B (Spanish)	235B	9/84	92	3.25
McAllen-Pharr-Edinburg, TX	236	1/84	152	4.00
Medford, OR	237	1/84	84	2.50
Melbourne-Titusville-Cocoa, FL	238	1/84	196	4.75
Memphis, TN-AR-MS	239	12/83	128	5.00
Meriden, CT	240	12/83	84	4.50
Miami, FL	241	1/84	224	6.00
Midland, TX	242	1/84	108	3.75
Milwaukee, WI	243	2/84	180	4.50
Minneapolis-St. Paul, MN-WI	244	1/84	201	6.00
Mobil, AL	245	1/84	112	4.00
Modesto, CA	246	1/84	108	3.75
Monroe, LA	247	12/83	128	5.00
Montgomery, AL	248	1/84	128	4.00
Muncie, IN	249	1/84	78	2.50
Muskegon-Norton Shores Muskegon Hts., MI	250	2/84	166	4.25
Nashua, NH	251	11/83	79	4.50
Nashville-Davidson, TN	252	12/83	128	5.00
Nassau-Suffolk, NY	253	1/84	122	4.00
New Bedford, MA	254	11/83	84	4.50
New Britain, CT	255	12/83	84	6.00
New Brunswick, Perth Amboy-Sayreville, NJ	256	1/84	180	4.50
New Haven, W. Haven, CT	257	11/83	164	5.50
New London-Norwich, CT-RI	258	12/83	120	5.00
New Orleans, LA	259	12/83	208	6.00
New York, NY	260	1/84	297	7.50
Newark, NJ	261	1/84	276	6.00
Newark, OH	262	1/84	84	2.50
Newburgh-Middletown, NY	263	1/84	156	4.25
Newport News-Hampton, VA	264	12/83	164	5.50

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Housing

Series HC80-2, Metropolitan Housing Characteristics—Con.

Area	Report number	Release date	Number of pages	Price (dollars)
Norfolk Virginia Beach-Portsmouth, VA-NC	265	1/84	252	6.50
Northeast, PA	266	1/84	108	4.75
Norwalk, CT	267	11/83	128	5.00
Ocala, FL	268	1/84	128	4.00
Odessa, TX	269	1/84	108	3.75
Oklahoma City, OK	270	1/84	178	4.50
Olympia, WA	271	1/84	84	2.50
Omaha, NE-IA	272	12/83	152	5.50
Orlando, FL	273	1/84	140	4.50
Owensboro, KY	274	1/84	78	2.50
Oxnard-Simi Valley-Ventura, CA	275	1/84	188	4.50
Panama City, FL	276	1/84	122	4.00
Parkersburg-Marietta, WV-OH	277	1/84	88	2.50
Pascagoula-Moss Point, MS	278	12/83	164	5.50
Paterson-Clifton-Passaic, NJ	279	1/84	208	6.00
Pensacola, FL	280	1/84	128	4.00
Peoria, IL	281	1/84	128	4.00
Petersburg-Colonial Hts.-Hopewell, VA	282	1/84	176	5.50
Philadelphia, PA-NJ	283	10/83	220	6.00
Phoenix, AZ	284	1/84	256	6.00
Pine Bluff, AR	285	12/83	128	5.00
Pittsburgh, PA	286	1/84	133	5.50
Pittsfield, MA	287	12/83	84	4.50
Ponce, PR-A (English)	288A	8/84	92	3.25
Ponce, PR-B (Spanish)	288B	9/84	92	3.25
Portland, ME	289	11/83	84	4.50
Portland, OR-WA	290	2/84	155	4.25
Portsmouth-Dover-Rochester, NH-ME	291	12/83	108	4.75
Poughskeepsie, NY	292	1/84	128	4.00
Providence-Warwick-Pawtucket, RI	293	12/83	188	6.00
Provo-Orem, UT	294	11/83	96	4.50
Pueblo, CO	295	11/83	101	4.75
Racine, WI	296	1/84	128	4.00
Raleigh-Durham, NC	297	11/83	164	5.50
Reading, PA	298	12/83	84	2.50
Redding, CA	299	1/84	84	2.50
Reno, NV	300	11/83	84	4.50
Richland-Kennewick-Pasco, WA	301	1/84	124	4.00
Richmond, VA	302	12/83	128	5.00
Riverside-San Bernardino-Ontario, CA	303	1/84	264	6.00
Roanoke, VA	304	1/84	112	5.00
Rochester, MN	305	1/84	84	2.50
Rochester, NY	306	1/84	144	4.00
Rockford, IL	307	1/84	128	4.00
Rock Hill, SC	308	1/84	128	4.00

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Housing

Series HC80-2, Metropolitan Housing Characteristics—Con.

Area	Report number	Release date	Number of pages	Price (dollars)
Sacramento, CA	309	1/84	202	6.00
Saginaw, MI	310	1/84	140	4.00
St. Cloud, MN	311	1/84	84	2.50
St. Joseph, MO	312	1/84	84	3.75
St. Louis, MO-IL	313	12/83	196	6.00
Salem, OR	314	1/84	96	2.50
Salinas-Seaside-Monterey, CA	315	1/84	190	4.75
Salisbury-Concord, NC	316	10/83	164	5.50
Salt Lake City-Ogden, UT	317	11/83	164	5.50
San Angelo, TX	318	1/84	100	3.75
San Antonio, TX	319	1/84	152	4.00
San Diego, CA	320	2/84	268	6.00
San Francisco-Oakland, CA	321	2/84	531	12.00
San Jose, CA	322	1/84	292	7.50
San Juan, PR-(English)	323A	8/84	154	5.50
San Juan, PR-(Spanish)	323B	9/84	146	5.50
Santa Barbara-Santa Maria-Lompoc, CA	324	1/84	152	4.00
Santa Cruz, CA	325	1/84	79	2.50
Santa Rosa, CA	326	1/84	88	2.50
Sarasota, FL	327	2/84	122	4.00
Savannah, GA	328	1/84	122	4.00
Seattle-Everett, WA	329	1/84	201	6.00
Sharon, PA	330	1/84	84	2.50
Sheboygan, WI	331	1/84	84	2.50
Sherman-Denison, TX	332	2/84	134	4.00
Shreveport, LA	333	11/83	164	5.50
Sioux City, IA-NE	334	12/83	84	4.50
Sioux Falls, SD	335	2/84	84	2.50
South Bend, IN	336	1/84	112	4.00
Spokane, WA	337	1/84	84	2.50
Springfield, IL	338	1/84	128	4.00
Springfield, MO	339	12/83	84	4.50
Springfield, OH	340	1/84	128	4.00
Springfield-Chicopee-Holyoke, MA-CT	341	11/83	138	6.00
Stamford, CT	342	11/83	128	6.50
State College, PA	343	12/83	84	4.50
Steubenville-Weirton, OH-WV	344	1/84	112	3.75
Stockton, CA	345	1/84	166	4.25
Syracuse, NY	346	1/84	128	4.00
Tacoma, WA	347	2/84	154	4.00
Tallahassee, FL	348	1/84	128	4.00
Tampa-St. Petersburg, FL	349	1/84	302	4.50
Terre Haute, IN	350	1/84	84	2.50
Texarkana, TX-Texarkana, AR	351	1/84	146	4.25
Toledo, OH-MI	352	2/84	152	4.00

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Housing

Series HC80-2, Metropolitan Housing Characteristics—Con.

Area	Report number	Release date	Number of pages	Price (dollars)
Topeka, KS	353	1/84	112	4.00
Trenton, NJ	354	12/83	140	5.50
Tucson, AZ	355	11/83	164	5.50
Tulsa, OK	356	2/84	144	4.00
Tuscaloosa, AL	357	1/84	128	4.00
Tyler, TX	358	1/84	128	4.00
Utica-Rome, NY	359	1/84	96	2.50
Vallejo-Fairfield-Napa, CA	360	2/84	201	6.00
Victoria, TX	361	1/84	98	3.75
Vineland-Millville, Bridgeton, NJ	362	1/84	176	4.25
Visalia-Tulare, Porterville, CA	363	1/84	152	4.00
Waco, TX	364	2/84	142	4.00
Washington, DC-MD-VA	365	1/84	259	6.00
Waterbury, CT	366	12/83	128	5.00
Waterloo-Cedar Falls, IA	367	1/84	112	3.75
Wausau, WI	368	1/84	67	2.50
West Palm Beach-Boca Raton, FL	369	1/84	145	4.00
Wheeling, WV-OH	370	1/84	84	2.50
Wichita, KS	371	11/83	140	5.50
Wichita Falls, TX	372	2/84	122	4.00
Williamsport, PA	373	2/84	84	4.50
Wilmington, DE-NJ-MD	374	12/83	128	5.00
Wilmington, NC	375	11/83	128	5.00
Worcester, MA	376	12/83	84	4.50
Yakima, WA	377	1/84	96	2.50
York, PA	378	12/83	108	4.75
Youngstown-Warren, OH	379	1/84	155	4.25
Yuba City, CA	380	1/84	96	2.50

— Means not applicable.

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Housing

Series HC80-3, Subject Reports

Title	Report number	Release date	Number of pages	Price (dollars)
Housing of Older Population	H1	—	Cancelled	—
Mobile Homes	H2	11/84	636	13.00
Condominium Housing	H3	6/85	340	12.00
Structural Characteristics of the Housing Inventory	H4	10/84	672	14.00
Space Utilization of Inventory	H5	7/85	600	22.00
Mover Households	H6	9/85	552	20.00

— Means not applicable.

1980 Census of Housing

Series HC80-4, Components of Inventory Change

Title	Report number	Release date	Number of pages	Price (dollars)
Components of Inventory Change, United States and Regions	I	10/12/83	689	8.50
SMSA Groupings With Populations of One Million or More in 1970	IIA	1/18/84	528	15.00
SMSA Groupings With Populations of Less Than One Million in 1970	IIB	1/31/84	528	14.00

1980 Census of Housing

Series HC80-5, Residential Finance

Title	Report number	Release date	Number of pages	Price (dollars)
Residential Finance	HC80-5	1/84	876	16.00

1980 Census of Housing

Series HC80-S1, Supplementary Reports

Title	Report number	Release date	Number of pages	Price (dollars)
Selected Housing Characteristics by States and Counties: 1980	S1-1	10/81	36	2.75
Components of Inventory Change Survey	S1-2	6/83	4	1.50

1980 Census of Population and Housing

Series PHC80-1, Block Statistics

NOTE: The U.S. Summary was a printed report (including maps) that was not reproduced on microfiche. The rest of the PHC80-1 series appeared only on microfiche with paper blowback available on order. Prices in these media were based on the total number of fiche or pages per order. Maps for each report in this series were issued at the same time but were sold separately; these are not listed in this appendix.

Area	Report number	Release date	Number of pages
U.S. Summary	1	3/83	511*
Alabama	2	6/82	139
Alaska	3	2/82	38
Arizona	4	6/82	71
Arkansas	5	5/82	137
California	6	7/82	90
Colorado	7	3/82	128
Connecticut	8	5/82	51
Delaware	9	6/82	34
District of Columbia	10	(see 365)	-
Florida	11	7/82	98
Georgia	12	9/82	882
Hawaii	13	3/82	28
Idaho	14	3/82	84
Illinois	15	9/82	229
Indiana	16	6/82	161
Iowa	17	5/82	159
Kansas	18	7/82	189
Kentucky	19	6/82	82
Louisiana	20	4/82	119
Maine	21	11/82	41
Maryland	22	6/82	43
Massachusetts	23	4/82	86
Michigan	24	9/82	104
Minnesota	25	7/82	118
Mississippi	26	7/82	594
Missouri	27	8/82	123
Montana	28	2/82	134
Nebraska	29	7/82	109
Nevada	30	3/82	32
New Hampshire	31	3/82	50
New Jersey	32	7/82	112
New Mexico	33	4/82	139
New York	34	9/82	559
North Carolina	35	7/82	189
North Dakota	36	3/82	68
Ohio	37	9/82	196
Oklahoma	38	5/82	152
Oregon	39	3/82	114
Pennsylvania	40	9/82	227
Rhode Island	41	4/82	40
South Carolina	42	5/82	82
South Dakota	43	4/82	96
Tennessee	44	6/82	137
Texas	45	7/82	301
Utah	46	5/82	78

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Population and Housing

Series PHC80-1, Block Statistics—Con.

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Area	Report number	Release date	Number of pages
Vermont	47	2/82	33
Virginia	48	7/82	382
Washington	49	5/82	134
West Virginia	50	8/82	80
Wisconsin	51	6/82	161
Wyoming	52	2/82	109
Puerto Rico	53	12/82	129
[Numbers reserved for outlying areas]	54-57	Not assigned	—
Abilene, TX	58	8/82	53
Akron, OH	59	9/82	132
Albany, GA	60	5/82	47
Albany-Schenectady-Troy, NY	61	11/82	161
Albuquerque, NM	62	7/82	94
Alexandria, LA	63	4/82	45
Allentown-Bethlehem-Easton, PA-NJ	64	9/82	133
Altoona, PA	65	9/82	51
Amarillo, TX	66	7/82	69
Anaheim-Santa Ana-Garden Grove, CA	67	7/82	199
Anchorage, AL	68	3/82	47
Anderson, IN	69	9/82	54
Anderson, SC	70	4/82	35
Ann Arbor, MI	71	6/82	54
Anniston, AL	72	6/82	48
Appleton-Oshkosh, WI	73	7/82	70
Arecibo, PR	74	12/82	58
Asheville, NC	75	9/82	50
Athens, GA	76	6/82	57
Atlanta, GA	77	7/82	309
Atlantic City, NJ	78	6/82	67
Augusta, GA-SC	79	6/82	80
Austin, TX	80	7/82	105
Bakersfield, CA	81	7/82	93
Baltimore, MD	82	7/82	286
Bangor, ME	83	3/82	35
Baton Rouge, LA	84	4/82	79
Battle Creek, MI	85	6/82	49
Bay City, MI	86	6/82	44
Beaumont-Port Arthur-Orange, TX	87	7/82	99
Bellingham, WA	88	4/82	42
Benton Harbor, MI	89	9/82	53
Billings, MT	90	3/82	44
Biloxi-Gulfport, MS	91	5/82	71
Binghamton, NY-PA	92	9/82	75

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Population and Housing

Series PHC80-1, Block Statistics—Con.

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Area	Report number	Release date	Number of pages
Birmingham, AL	93	8/82	159
Bismarck, ND	94	3/82	41
Bloomington, IN	95	6/82	38
Bloomington-Normal, IL	96	7/82	42
Boise City, ID	97	2/82	58
Boston, MA	98	7/82	384
Bradenton, FL	99	7/82	60
Bremerton, WA	100	3/82	44
Bridgeton, CT	101	3/82	77
Bristol, CT	102	5/82	35
Brockton, MA	103	3/82	46
Brownsville-Harlingen-San Benito, TX	104	7/82	63
Bryan-College Station, TX	105	7/82	40
Buffalo, NY	106	7/82	172
Burlington, NC	107	6/82	45
Burlington, VT	108	2/82	37
Caguas, PR	109	12/82	61
Canton, OH	110	7/82	113
Casper, WY	111	3/82	40
Cedar Rapids, IA	112	4/82	52
Champaign-Urbana-Rantoul, IL	113	7/82	47
Charleston-N. Charleston, SC	114	4/82	72
Charleston, WV	115	7/82	60
Charlotte-Gastonia	116	6/82	110
Charlottesville, VA	117	6/82	43
Chattanooga, TN-GA	118	5/82	103
Chicago, IL	119	6/82	852
Chico, CA	120	7/82	35
Cincinnati, OH-KY-IN	121	9/82	159
Clarksville-Hopkinsville, TN-KY	122	7/82	45
Cleveland, OH	123	8/82	202
Colorado Springs, CO	124	3/82	64
Columbia, MO	125	7/82	35
Columbia, SC	126	7/82	83
Columbus, GA-AL	127	7/82	62
Columbus, OH	128	9/82	160
Corpus Christi, TX	129	7/82	67
Cumberland, MD-WV	130	8/82	44
Dallas-Ft. Worth, TX	131	7/82	481
Danbury, CT	132	5/82	44
Danville, VA	133	6/82	43
Davenport-Rock Island-Moline, IA-IL	134	7/82	85
Dayton, OH	135	8/82	141
Daytona Beach, FL	136	11/82	136
Decatur, IL	137	6/82	48

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Population and Housing

Series PHC80-1, Block Statistics—Con.

NOTE: The U.S. Summary was a printed report (including maps) that was not reproduced on microfiche. The rest of the PHC80-1 series appeared only on microfiche with paper blowback available on order. Prices in these media were based on the total number of fiche or pages per order. Maps for each report in this series were issued at the same time but were sold separately; these are not listed in this appendix.

Area	Report number	Release date	Number of pages
Denver-Boulder, CO	138	3/82	266
Des Moines, IA	139	5/82	76
Detroit, MI	140	9/82	538
Dubuque, IA	141	4/82	39
Duluth-Superior, MN-WI	142	5/82	70
Eau Claire, WI	143	6/82	47
El Paso, TX	144	9/82	86
Elkhart, IN	145	6/82	49
Elmira, NY	146	8/82	46
Enid, OK	147	5/82	42
Erie, PA	148	8/82	58
Eugene-Springfield, OR	149	3/82	61
Evansville, IN-KY	150	7/82	69
Fall River, MA-RI	151	3/82	57
Fargo-Moorhead, ND-MN	152	3/82	46
Fayetteville, NC	153	6/82	54
Fayetteville-Springdale, AR	154	8/82	59
Fitchburg-Leominster, MA	155	5/82	38
Flint, MI	156	7/82	87
Florence, AL	157	6/82	51
Florence, SC	158	4/82	33
Ft. Collins, CO	159	3/82	43
Ft. Lauderdale-Hollywood, FL	160	9/82	159
Ft. Myers-Cape Coral, FL	161	8/82	73
Ft. Smith, AR-OK	162	5/82	57
Ft. Walton Beach, FL	163	9/82	40
Ft. Wayne, IN	164	5/82	71
Fresno, CA	165	8/82	85
Gadsden, AL	166	6/82	48
Gainesville, FL	167	9/82	46
Galveston-Texas City, TX	168	8/82	65
Gary-Hammond-East Chicago, IN	169	5/82	117
Glens Falls, NY	170	8/82	55
Grand Forks, ND-MN	171	3/82	37
Grand Rapids, MI	172	9/82	93
Great Falls, MT	173	2/82	44
Greeley, CO	174	3/82	39
Green Bay, WI	175	6/82	53
Greensboro-Winston-Salem-High Point, NC	176	9/82	149
Greenville-Spartanburg, SC	177	5/82	132
Hagerstown, MD	178	7/82	40
Hamilton-Middletown, OH	179	8/82	56
Harrisburg, PA	180	8/82	126
Hartford, CT	181	5/82	102
Hickory, NC	182	6/82	45

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Population and Housing

Series PHC80-1, Block Statistics—Con.

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Area	Report number	Release date	Number of pages
Honolulu, HI	183	3/82	72
Houston, TX	184	8/82	370
Huntington-Ashland, WV-KY-OH	185	9/82	71
Huntsville, AL	186	6/82	62
Indianapolis, IN	187	7/82	178
Iowa City, IA	188	6/82	34
Jackson, MI	189	9/82	44
Jackson, MS	190	7/82	74
Jacksonville, FL	191	8/82	139
Jacksonville, NC	192	8/82	32
Janesville-Beloit, WI	193	6/82	50
Jersey City, NJ	194	6/82	63
Johnson City-Kingsport-Bristol, TN-VA	195	6/82	96
Johnstown, PA	196	8/82	54
Joplin, MO	197	8/82	60
Kalamazoo-Portage, MI	198	7/82	53
Kankakee, IL	199	7/82	39
Kansas City, MO-KS	200	7/82	242
Kenosha, WI	201	6/82	42
Killeen-Temple, TX	202	9/82	60
Knoxville, TN	203	6/82	99
Kokomo, IN	204	5/82	40
La Crosse, WI	205	6/82	40
Lafayette, LA	206	5/82	47
Lafayette-West Lafayette, IN	207	6/82	41
Lake Charles, LA	208	6/82	52
Lakeland-Winter Haven, FL	209	7/82	94
Lancaster, PA	210	8/82	93
Lansing-East Lansing, MI	211	7/82	71
Laredo, TX	212	7/82	51
Las Cruces, NM	213	5/82	40
Las Vegas, NV	214	3/82	87
Lawrence, KS	215	5/82	34
Lawrence-Haverhill, MA-NH	216	3/82	70
Lawton, OK	217	5/82	40
Lewiston-Auburn, ME	218	3/82	37
Lexington-Fayette, KY	219	6/82	50
Lima, OH	220	9/82	47
Lincoln, NE	221	4/82	63
Little Rock-North Little Rock, AR	222	5/82	93
Long Branch-Asbury Park, NJ	223	7/82	112
Longview-Marshall, TX	224	7/82	54
Lorain-Elyria, OH	225	9/82	57
Los Angeles-Long Beach, CA	226	8/82	738
Louisville, KY-IN	227	6/82	138

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Population and Housing

Series PHC80-1, Block Statistics—Con.

NOTE: The U.S. Summary was a printed report (including maps) that was not reproduced on microfiche. The rest of the PHC80-1 series appeared only on microfiche with paper blowback available on order. Prices in these media were based on the total number of fiche or pages per order. Maps for each report in this series were issued at the same time but were sold separately; these are not listed in this appendix.

Area	Report number	Release date	Number of pages
Lowell, MA-NH	228	3/82	65
Lubbock, TX	229	7/82	62
Lynchburg, VA	230	6/82	50
Macon, GA	231	6/82	74
Madison, WI	232	6/82	66
Manchester, NH	233	3/82	52
Mansfield, OH	234	9/82	42
Mayaguez, PR	235	12/82	58
McAllen-Pharr-Edinburg, TX	236	9/82	68
Medford, OR	237	4/82	44
Melbourne-Titusville-Cocoa, FL	238	9/82	79
Memphis, TN-AR-MS	239	6/82	143
Meriden, CT	240	5/82	31
Miami, FL	241	9/82	255
Midland, TX	242	9/82	48
Milwaukee, WI	243	7/82	201
Minneapolis-St. Paul, MN-WI	244	7/82	343
Mobile, AL	245	6/82	81
Modesto, CA	246	9/82	73
Monroe, LA	247	4/82	50
Montgomery, AL	248	6/82	56
Muncie, IN	249	5/82	50
Muskegon-Norton Shores-Muskegon Heights, MI	250	9/82	52
Nashua, NH	251	3/82	42
Nashville-Davidson, TN	252	5/82	122
Nassau-Suffolk, NY	253	9/82	459
New Bedford, MA	254	3/82	57
New Britain, CT	255	5/82	40
New Brunswick-Perth Amboy-Sayreville, NJ	256	9/82	110
New Haven-West Haven, CT	257	6/82	77
New London-Norwich, CT-RI	258	3/82	62
New Orleans, LA	259	5/82	201
New York, NY-NJ	260	9/82	687
Newark, NJ	261	8/82	261
Newark, OH	262	9/82	39
Newburgh-Middletown, NY-NJ	263	8/82	71
Newport News, Hampton, VA	264	6/82	66
Norfolk-VA. Beach-Portsmouth, VA-NC	265	8/82	136
Northeast, PA	266	8/82	129
Norwalk, CT	267	5/82	41
Ocala, FL	268	9/82	43
Odessa, TX	269	9/82	53
Oklahoma City, OK	270	6/82	170
Olympia, WA	271	4/82	40
Omaha, NE-IA	272	5/82	126

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Population and Housing

Series PHC80-1, Block Statistics—Con.

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Area	Report number	Release date	Number of pages
Orlando, FL	273	8/82	136
Owensboro, KY	274	6/82	37
Oxnard-Simi Valley-Ventura, CA	275	9/82	79
Panama City, FL	276	8/82	53
Parkersburg-Marietta, WV-OH	277	7/82	50
Pascagoula-Moss Point, MS	278	6/82	48
Paterson-Clifton-Passaic, NJ	279	7/82	80
Pensacola, FL	280	9/82	81
Peoria, IL	281	8/82	77
Petersburg-Colonial Heights-Hopewell, VA	282	7/82	54
Philadelphia, PA-NJ	283	9/82	716
Phoenix, AR	284	7/82	219
Pine Bluff, AR	285	5/82	46
Pittsburg, PA	286	9/82	374
Pittsfield, MA	287	3/82	20
Ponce, PR	288	12/82	70
Portland, ME	289	5/82	50
Portland, OR-WA	290	3/82	241
Portsmouth-Dover-Rochester, NH-ME	291	5/82	45
Poughkeepsie, NY	292	9/82	61
Providence-Warwick-Pawtucket, RI-MA	293	3/82	196
Provo-Orem, UT	294	3/82	52
Pueblo, CO	295	3/82	56
Racine, WI	296	6/82	47
Raleigh-Durham, NC	297	6/82	94
Reading, PA	298	9/82	64
Redding, CA	299	9/82	38
Reno, NV	300	3/82	52
Richland-Kennewick-Pasco, WA	301	5/82	51
Richmond, VA	302	6/82	127
Riverside-San Bernardino-Ontario, CA	303	9/82	193
Roanoke, VA	304	6/82	65
Rochester, MN	305	4/82	36
Rochester, NY	306	9/82	165
Rockford, IL	307	7/82	78
Rock Hill, SC	308	4/82	39
Sacramento, CA	309	8/82	132
Saginaw, MI	310	7/82	56
St. Cloud, MN	311	5/82	41
St. Joseph, MO	312	8/82	47
St. Louis, MO-IL	313	11/82	327
Salem, OR	314	3/82	50
Salinas-Seaside-Monterey, CA	315	8/82	58
Salisbury-Concord, NC	316	7/82	56
Salt Lake City-Ogden, UT	317	5/82	133

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Population and Housing

Series PHC80-1, Block Statistics—Con.

NOTE: The U.S. Summary was a printed report (including maps) that was not reproduced on microfiche. The rest of the PHC80-1 series appeared only on microfiche with paper blowback available on order. Prices in these media were based on the total number of fiche or pages per order. Maps for each report in this series were issued at the same time but were sold separately; these are not listed in this appendix.

Area	Report number	Release date	Number of pages
San Angelo, TX	318	7/82	49
San Antonio, TX	319	9/82	83
San Diego, CA	320	9/82	194
San Francisco-Oakland, CA	321	9/82	369
San Jose, CA	322	9/82	156
San Juan, PR	323	12/82	160
Santa Barbara-Santa Maria-Lompoc, CA	324	9/82	58
Santa Cruz, CA	325	9/82	48
Santa Rosa, CA	326	9/82	53
Sarasota, FL	327	9/82	66
Savannah, GA	328	6/82	76
Seattle-Everett, WA	329	3/82	242
Sharon, PA	330	9/82	39
Sheboygan, WI	331	6/82	38
Sherman-Denison, TX	332	8/82	44
Shreveport, LA	333	5/82	77
Sioux City, IA-NE	334	3/82	52
Sioux Falls, SD	335	5/82	45
South Bend, IN	336	6/82	71
Spokane, WA	337	5/82	107
Springfield, IL	338	7/82	55
Springfield, MO	339	7/82	56
Springfield, OH	340	8/82	49
Springfield-Chicopee-Holyoke, MA-CT	341	4/82	99
Stamford, CT	342	5/82	47
State College, PA	343	8/82	29
Steubenville-Weirton, OH-WV	344	8/82	49
Stockton, CA	345	8/82	72
Syracuse, NY	346	9/82	131
Tacoma, WA	347	4/82	95
Tallahassee, FL	348	9/82	46
Tampa-St. Petersburg, FL	349	8/82	313
Terre Haute, IN	350	6/82	52
Texarkana, TX-AR	351	6/82	53
Toledo, OH-MI	352	9/82	121
Topeka, KS	353	7/82	54
Trenton, NJ	354	7/82	72
Tucson, AR	355	6/82	101
Tulsa, OK	356	6/82	127
Tuscaloosa, AL	357	7/82	44
Tyler, TX	358	9/82	50
Utica-Rome, NY	359	9/82	88
Vallejo-Fairfield-Napa, CA	360	9/82	63
Victoria, TX	361	7/82	39
Vineland-Millville-Bridgeton, NJ	362	6/82	44

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Population and Housing

Series PHC80-1, Block Statistics—Con.

NOTE: The U.S. Summary was a printed report (including maps) that was not reproduced on microfiche. The rest of the PHC80-1 series appeared only on microfiche with paper blowback available on order. Prices in these media were based on the total number of fiche or pages per order. Maps for each report in this series were issued at the same time but were sold separately; these are not listed in this appendix.

Area	Report number	Release date	Number of pages
Visalia-Tulare-Porterville, CA	363	8/82	50
Waco, TX	364	9/82	62
Washington, DC-MD-VA	365	9/82	323
Waterbury, CT	366	6/82	50
Waterloo-Cedar Falls, IA	367	5/82	55
Wausau, WI	368	7/82	45
West Palm Beach-Boca Raton, FL	369	8/82	111
Wheeling, WV-OH	370	5/82	56
Wichita, KS	371	6/82	97
Wichita Falls, TX	372	7/82	53
Williamsport, PA	373	8/82	42
Wilmington, DE-NJ-MD	374	7/82	100
Wilmington, NC	375	6/82	47
Worcester, MA	376	4/82	80
Yakima, WA	377	4/82	51
York, PA	378	8/82	64
Youngstown-Warren, OH	379	9/82	97
Yuba City, CA	380	9/82	37

— Means not applicable.

* Printed report only, \$12.

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Population and Housing Series PHC80-2, Census Tracts

Area	Report number	Release date	Number of pages	Price (dollars)
U.S. Summary	1	3/84	80	3.00
Alabama	2	8/83	402	8.50
Alaska	3	1/84	111	4.75
Arizona	4	8/83	172	5.50
Arkansas	5	8/83	80	4.50
California	6	8/83	443	10.00
Colorado	7	8/83	117	5.00
Connecticut	8	8/83	193	6.00
Delaware	9	9/83	166	4.25
District of Columbia	10	(see 365)	—	—
Florida	11	8/83	270	7.00
Georgia	12	8/83	132	5.50
Hawaii	13	7/83	191	6.00
Idaho	14	7/83	155	5.50
Illinois	15	9/83	180	6.00
Indiana	16	9/83	200	6.00
Iowa	17	9/83	211	6.00
Kansas	18	8/83	140	5.50
Kentucky	19	9/83	96	4.50
Louisiana	20	7/83	215	6.00
Maine	21	8/83	193	6.00
Maryland	22	8/83	162	5.50
Massachusetts	23	8/83	255	6.50
Michigan	24	9/83	148	5.50
Minnesota	25	9/83	92	4.50
Mississippi	26	8/83	305	7.50
Missouri	27	8/83	79	4.50
Montana	28	7/83	124	5.00
Nebraska	29	8/83	69	4.50
Nevada	30	8/83	192	4.50
New Hampshire	31	8/83	125	5.00
New Jersey	32	9/83	218	6.00
New Mexico	33	8/83	362	8.00
New York	34	9/83	112	4.75
North Carolina	35	8/83	466	9.00
North Dakota	36	Not assigned	—	—
Ohio	37	9/83	237	6.50
Oklahoma	38	8/83	303	7.50
Oregon	39	9/83	172	5.50
Pennsylvania	40	9/83	160	5.50
Rhode Island	41	8/83	111	4.75
South Carolina	42	8/83	203	6.00
South Dakota	43	8/83	139	5.50
Tennessee	44	9/83	200	6.00
Texas	45	9/83	288	7.00
Utah	46	Not assigned	—	—

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1980 Census of Population and Housing

Series PHC80-2, Census Tracts—Con.

Area	Report number	Release date	Number of pages	Price (dollars)
Vermont	47	7/83	69	4.50
Virginia	48	8/83	258	6.50
Washington	49	9/83	120	5.00
West Virginia	50	9/83	232	6.50
Wisconsin	51	9/83	164	5.50
Wyoming	52	8/83	122	5.00
Puerto Rico	53	4/84	129	4.75
	54-57	Not assigned	—	—
Abilene, TX	58	8/83	132	5.50
Akron, OH	59	9/83	263	6.50
Albany, GA	60	8/83	149	5.50
Albany-Schenectady-Troy, NY	61	9/83	289	7.00
Albuquerque, NM	62	8/83	268	6.50
Alexandria, LA	63	8/83	138	5.50
Allentown-Bethlehem-Easton, PA-NJ	64	9/83	220	6.00
Altoona, PA	65	9/83	116	4.75
Amarillo, TX	66	8/83	157	5.50
Anaheim-Santa Ana-Garden Grove, CA				
Section 1 of 2			464	11.00 per set
Section 2 of 2	67	10/83	640	
Anchorage, AK	68	8/83	113	4.75
Anderson, IN	69	9/83	132	5.00
Anderson, SC	70	8/83	134	5.00
Ann Arbor, MI	71	9/83	216	6.00
Anniston, AL	72	8/83	134	5.00
Appleton-Oshkosh, WI	73	9/83	220	6.00
Arecibo, PR	74	4/84	142	5.00
Asheville, NC	75	8/83	137	5.50
Athens, GA	76	8/83	139	5.50
Atlanta, GA	77	8/83	703	8.50
Atlantic City, NJ	78	9/83	154	5.50
Augusta, GA-SC	79	8/83	268	6.50
Austin, TX	80	8/83	325	7.50
Bakersfield, CA	81	8/83	259	6.50
Baltimore, MD	82	9/83	872	9.00
Bangor, ME	83	8/83	100	4.75
Baton Rouge, LA	84	7/83	238	6.50
Battle Creek, MI	85	10/83	171	5.50
Bay City, MI	86	9/83	112	4.75
Beaumont-Port Arthur-Orange, TX	87	8/83	279	7.00
Bellingham, WA	88	9/83	120	5.00
Benton Harbor, MI	89	9/83	148	5.50
Billings, MT	90	8/83	102	4.75
Biloxi-Gulfport, MS	91	9/83	175	6.00
Binghamton, NY-PA	92	9/83	144	5.50

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1980 Census of Population and Housing

Series PHC80-2, Census Tracts—Con.

Area	Report number	Release date	Number of pages	Price (dollars)
Birmingham, AL	93	8/83	496	11.00
Bismarck, ND	94	9/83	106	4.75
Bloomington, IN	95	9/83	117	5.00
Bloomington-Normal, IL	96	9/83	136	5.00
Boise City, ID	97	7/83	136	5.00
Boston, MA	98	8/83	604	6.50
Bradenton, FL	99	8/83	131	5.50
Bremerton, WA	100	9/83	140	\$5.50
Bridgeport, CT	101	9/83	199	6.00
Bristol, CT	102	8/83	95	4.50
Brockton, MA	103	8/83	120	5.00
Brownsville-Harlingen-San Benito, TX	104	9/83	185	6.00
Bryan-College Station, TX	105	8/83	110	5.00
Buffalo, NY	106	9/83	352	8.00
Burlington, NC	107	8/83	121	5.00
Burlington, VT	108	8/83	108	4.75
Caguas, PR	109	4/84	176	5.50
Canton, OH	110	9/83	234	6.50
Casper, WY	111	8/83	120	5.00
Cedar Rapids, IA	112	9/83	142	5.50
Champaign-Urbana-Rantou, IL	113	9/83	168	5.50
Charleston-N. Charleston, SC	114	8/83	325	7.50
Charleston, WV	115	9/83	156	5.50
Charlotte-Gastonia, NC	116	8/83	331	7.50
Charlottesville, VA	117	8/83	120	5.00
Chattanooga, TN-GA	118	9/83	236	6.50
Chicago, IL				
Section 1 of 4			608	20.00 per set
Section 2 of 4			660	
Section 3 of 4	119	10/83	664	
Section 4 of 4			840	
Chico, CA	120	8/83	143	5.50
Cincinnati, OH-KY-IN	121	9/83	612	8.00
Clarksville-Hopkinsville, TN-KY	122	9/83	188	6.00
Cleveland, OH	123	9/83	656	7.50
Colorado Springs, CO	124	7/83	225	6.50
Columbus, MO	125	8/83	117	5.00
Columbus, SC	126	8/83	313	7.50
Columbus, GA-AL	127	8/83	195	6.00
Columbus, OH	128	9/83	611	7.50
Corpus Christi, TX	129	8/83	189	5.50
Cumberland, MD-WV	130	9/83	116	4.75
Dallas-Fort Worth, TX				
Section 1 of 2			686	13.00 per set
Section 2 of 2	131	9/83	608	
Danbury, CT	132	8/83	115	5.00

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Series PHC80-2, Census Tracts—Con.

Area	Report number	Release date	Number of pages	Price (dollars)
Danville, VA	133	8/83	124	5.00
Davenport-Rock Island, IA-IL	134	9/83	260	6.50
Dayton, OH	135	9/83	456	6.50
Daytona Beach, FL	136	8/83	195	6.00
Decatur, IL	137	9/83	152	5.50
Denver-Boulder, CO	138	9/83	757	8.00
Des Moines, IA	139	9/83	194	6.00
Detroit, MI				
Section 1 of 2	140	10/83	668	12.00 per set
Section 2 of 2			640	
Dubuque, IA	141	9/83	104	4.75
Duluth-Superior, MN-WI	142	9/83	164	5.50
Eau Claire, WI	143	9/83	116	4.75
El Paso, TX	144	8/83	194	6.00
Elkhart, IN	145	9/83	124	5.00
Elimra, NY	146	9/83	102	4.75
Enid, OK	147	8/83	96	4.75
Erie, PA	148	9/83	128	5.00
Eugene-Springfield, OR	149	9/83	180	6.00
Evansville, IN-KY	150	9/83	175	6.00
Fall River, MA-RI	151	7/83	115	5.00
Fargo-Moorhead, ND-MN	152	9/83	133	5.00
Fayetteville, NC	153	8/83	196	6.00
Fayetteville-Springdale, AR	154	8/83	136	5.50
Fitchburg-Leominster, MA	155	7/83	110	4.75
Flint, MI	156	9/83	216	6.00
Florence, AL	157	8/83	128	5.00
Florence, SC	158	8/83	125	5.00
Ft. Collins, CO	159	7/83	141	5.50
Ft. Lauderdale-Hollywood, FL	160	8/83	433	8.50
Ft. Myers-Cape Coral, FL	161	8/83	147	5.50
Ft. Smith, AR-OK	162	8/83	151	5.50
Ft. Walton Beach, FL	163	8/83	137	5.50
Ft. Wayne, IN	164	9/83	194	6.00
Fresno, CA	165	8/83	312	7.50
Gadsden, AL	166	8/83	137	5.50
Gainesville, FL	167	8/83	139	5.50
Galveston-Texas City, TX	168	8/83	194	6.00
Gary-Hammond-East Chicago, IN	169	9/83	275	7.00
Glens Fall, NY	170	9/83	107	4.75
Grand Forks, ND-MN	171	9/83	118	5.00
Grand Rapids, MI	172	9/83	240	6.50
Great Falls, MT	173	8/83	129	5.00
Greeley, CO	174	7/83	140	5.50
Green Bay, WI	175	10/83	156	5.50
Greensboro-Winston-Salem-High Point, NC	176	7/83	428	8.50
Greenville-Spartansburg, SC	177	8/83	369	8.00

Appendix 8A. 1980 Census of Population and Housing Publication Reports

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Series PHC80-2, Census Tracts—Con.

Area	Report number	Release date	Number of pages	Price (dollars)
Hagerstown, MD	178	8/83	115	5.00
Hamilton-Middletown, OH	179	9/83	164	5.50
Harrisburg, PA	180	9/83	184	6.00
Hartford, CT	181	9/83	235	6.50
Hickory, NC	182	8/83	121	5.00
Honolulu, HI	183	8/83	476	9.50
Houston, TX				
Section 1 of 2			616	12.00 per set
Section 2 of 2	184	9/83	607	
Huntington-Ashland, WV-KY-OH	185	9/83	200	6.00
Huntsville, AL	186	8/83	235	6.50
Indianapolis, IN	187	9/83	488	7.00
Iowa City, IA	188	9/83	120	5.00
Jackson, MI	189	11/83	113	4.75
Jackson, MS	190	8/83	206	6.00
Jacksonville, FL	191	8/83	303	7.50
Jacksonville, NC	192	8/83	128	5.00
Janesville-Beloit, WI	193	9/83	121	5.00
Jersey City, NJ	194	9/83	280	6.00
Johnson City-Kingsport-Bristol, TN-VA	195	9/83	268	6.50
Johnstown, PA	196	9/83	136	5.00
Joplin, MO	197	9/83	140	5.50
Kalamazoo-Portage, MI	198	9/83	160	5.50
Kankakee, IL	199	9/83	118	5.00
Kansas City, MO-KS	200	8/83	638	8.00
Kenosha, WI	201	9/83	128	5.00
Killeen-Temple, TX	202	9/83	203	6.00
Knoxville, TN	203	9/83	244	6.50
Kokomo, IN	204	9/83	124	5.00
La Crosse, WI	205	9/83	96	4.50
Lafayette, LA	206	8/83	136	5.00
Lafayette-West Lafayette, IN	207	9/83	142	5.50
Lake Charles, LA	208	8/83	155	5.50
Lakeland-Winter Haven, FL	209	8/83	227	6.50
Lancaster, PA	210	10/83	168	5.50
Lansing-East Lansing, MI	211	9/83	256	6.50
Laredo, TX	212	9/83	104	4.75
Las Cruces, NM	213	8/83	131	5.00
Las Vegas, NV	214	8/83	242	6.50
Lawrence, KS	215	8/83	111	4.75
Lawrence-Haverhill, MA-NH	216	8/83	138	5.50
Lawton, OK	217	8/83	130	5.00
Lewiston-Auburn, ME	218	8/83	76	4.50
Lexington-Fayette, KY	219	9/83	201	6.00
Lima, OH	220	9/83	159	5.50
Lincoln, NE	221	8/83	142	5.50
Little Rock-North Little Rock, AR	222	8/83	269	6.50

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1980 Census of Population and Housing

Series PHC80-2, Census Tracts—Con.

Area	Report number	Release date	Number of pages	Price (dollars)
Long Beach-Asbury Park, NJ	223	9/83	204	6.00
Longview-Marshall, TX	224	8/83	156	5.50
Lorain-Elyria, OH	225	9/83	195	6.00
Los Angeles-Long Beach, CA				
Section 1 of 4			796	22.00 per set
Section 2 of 4	226	10/83	560	
Section 3 of 4			780	
Section 4 of 4			736	
Louisville, KY-IN	227	10/83	448	7.00
Lowell, MA-NH	228	8/83	126	5.00
Lubbock, TX	229	8/83	130	5.50
Lynchburg, VA	230	9/83	148	5.50
Macon, GA	231	8/83	223	6.50
Madison, WI	232	7/83	196	6.00
Manchester, NH	233	8/83	128	5.00
Mansfield, OH	234	9/83	120	5.00
Mayaguez, PR	235	4/84	180	5.50
McAllen-Pharr-Edinburg, TX	236	9/83	196	6.00
Medford, OR	237	9/83	136	5.00
Melbourne-Titusville-Cocoa, FL	238	8/83	225	6.00
Memphis, TN-AR-MS	239	9/83	408	8.50
Meriden, CT	240	8/83	95	4.50
Miami, FL	241	8/83	761	8.50
Midland, TX	242	8/83	116	5.00
Milwaukee, WI	243	10/83	504	7.00
Minneapolis-St. Paul, Mn-WI	244	9/83	724	8.50
Mobil, AL	245	8/83	255	6.50
Modesto, CA	246	8/83	204	6.00
Monroe, LA	247	7/83	157	5.50
Montgomery, AL	248	8/83	214	6.00
Muncie, IN	249	9/83	124	5.00
Muskegon-Norton Shores-Muskegon Heights, MI	250	9/83	140	5.50
Nashua, NH	251	7/83	108	4.75
Nashville-Davidson, TN	252	9/83	376	8.00
Nassau-Suffolk, NY	253	9/83	896	9.00
New Bedford, MA	254	7/83	117	5.00
New Britain, CT	255	8/83	98	4.75
New Brunswick-Perth Amboy-Sayreville, NJ	256	9/83	241	6.50
New Haven-West Haven, CT	257	9/83	188	6.00
New London-Norwich, CT-RI	258	8/83	160	5.50
New Orleans, LA	259	8/83	530	6.50
New York, NY-NJ				
Section 1 of 4			884	23.00 per set
Section 2 of 4	260	10/83	817	
Section 3 of 4			799	
Section 4 of 4			495	
Newark, NJ	261	9/83	672	12.00
Newark, OH	262	9/83	124	5.00

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Series PHC80-2, Census Tracts—Con.

Area	Report number	Release date	Number of pages	Price (dollars)
Newburgh-Middletown, NY	263	8/83	153	5.50
Newport News-Hampton, VA	264	8/83	183	6.00
Norfolk-Virginia Beach-Portsmouth, VA-NC	265	9/83	320	7.50
Northeast, PA	266	9/83	220	6.00
Norwalk, CT	267	9/83	108	4.75
Ocala, FL	268	8/83	119	5.00
Odessa, TX	269	9/83	123	5.00
Oklahoma City, OK	270	8/83	497	11.00
Olympia, WA	271	10/83	134	5.50
Omaha, NE-IA	272	9/83	281	7.00
Orlando, FL	273	8/83	477	11.00
Owensboro, KY	274	9/83	109	4.75
Oxnard-Simi Valley-Ventura, CA	275	8/83	317	7.50
Panama City, FL	276	8/83	118	5.00
Parkersburg-Marietta, WV-OH	277	9/83	148	5.50
Pascagoula-Moss Point, MS	278	8/83	140	5.50
Paterson-Clifton-Passaic, NJ	279	9/83	198	6.00
Pensacola, FL	280	8/83	224	6.50
Peoria, IL	281	10/83	228	6.50
Petersburg-Colonial Hts.-Hopewell, VA	282	9/83	131	5.00
Philadelphia, PA-NJ				
Section 1 of 2	283	10/83	622	12.00 per set
Section 2 of 2			609	
Phoenix, AZ	284	8/83	551	7.00
Pine Bluff, AR	285	8/83	136	5.50
Pittsburgh, PA	286	9/83	732	8.50
Pittsfield, MA	287	7/83	95	4.50
Ponce, PR	288	4/84	199	7.00
Portland, ME	289	8/83	131	5.00
Portland, OR-WA	290	10/83	565	7.50
Portsmouth-Dover-Rochester, NH-ME	291	8/83	135	5.50
Poughkeepsie, NY	292	9/83	143	5.50
Providence-Warwick-Pawtucket, RI-MA	293	8/83	283	7.00
Provo-Orem, UT	294	8/83	158	5.50
Pueblo, CO	295	8/83	161	5.50
Racine, WI	296	9/83	132	5.00
Raleigh-Durham, NC	297	8/83	378	8.00
Reading, PA	298	9/83	144	5.50
Redding, CA	299	8/83	127	5.00
Reno, NV	300	8/83	157	5.50
Richland-Kennewick-Pasco, WA	301	9/83	152	5.50
Richmond, VA	302	8/83	344	8.00
Riverside-San Bernardino-Ontario, CA	303	8/83	715	8.50
Roanoke, VA	304	9/83	148	5.50
Rochester, MN	305	9/83	115	5.00
Rochester, NY	306	9/83	336	7.50
Rockford, IL	307	9/83	206	6.00

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Series PHC80-2, Census Tracts—Con.

Area	Report number	Release date	Number of pages	Price (dollars)
Rock Hill, SC	308	8/83	142	5.50
Sacramento, CA	309	8/83	489	11.00
Saginaw, MI	310	9/83	136	5.00
St. Cloud, MN	311	9/83	125	5.00
St. Joseph, MO	312	9/83	109	4.75
St. Louis, MO-IL				
Section 1 of 2			460	10.00 per set
Section 2 of 2	313	9/83	376	
Salem, OR	314	9/83	160	5.50
Salinas-Seaside-Monterey, CA	315	8/83	217	6.00
Salisbury-Concord, NC	316	8/83	156	5.50
Salt Lake City-Ogden, UT	317	8/83	437	10.00
San Angelo, TX	318	9/83	122	5.00
San Antonio, TX	319	8/83	424	7.00
San Diego, CA	320	10/83	184	9.00
San Francisco-Oakland, CA				
Section 1 of 2			676	14.00 per set
Section 2 of 2	321	9/83	856	
San Jose, CA	322	8/83	790	9.00
San Juan, PR	323	4/84	508	16.00
Santa Barbara-Santa Maria-Lompoc, CA	324	8/83	208	6.00
Santa Cruz, CA	325	8/83	161	5.50
Santa Rosa, CA	326	8/83	182	6.00
Sarasota, FL	327	8/83	138	5.50
Savannah, GA	328	8/83	201	6.00
Seattle-Everett, WA	329	10/83	676	8.50
Sharon, PA	330	10/83	100	4.50
Sheboygan, WI	331	10/83	100	4.50
Sherman-Denison, TX	332	8/83	124	5.00
Shreveport, LA	333	8/83	253	6.50
Sioux City, IA-NE	334	9/83	117	5.00
Sioux Falls, SD	335	8/83	114	5.00
South Bend, IN	336	9/83	184	6.00
Spokane, WA	337	9/83	180	6.00
Springfield, IL	338	9/83	152	5.50
Springfield, MO	339	8/83	145	5.50
Springfield, OH	340	9/83	152	5.50
Springfield-Chicopee-Holyoke, MA-CT	341	8/83	211	6.00
Stamford, CT	342	8/83	126	5.00
State College, PA	343	9/83	112	4.75
Steubenville-Weirton, OH-WV	344	9/83	136	5.00
Stockton, CA	345	8/83	286	7.00
Syracuse, NY	346	9/83	263	6.50
Tacoma, WA	347	9/83	216	6.00
Tallahassee, FL	348	8/83	148	5.50
Tampa-St. Petersburg, FL	349	8/83	632	8.00
Terre Haute, IN	350	9/83	128	5.00
Texarkana, TX-Texarkana, AR	351	8/83	147	5.50
Toledo, OH-MI	352	9/83	344	8.00

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Population and Housing Series PHC80-2, Census Tracts—Con.

Area	Report number	Release date	Number of pages	Price (dollars)
Topeka, KS	353	8/83	155	5.50
Trenton, NJ	354	9/83	169	5.50
Tucson, AZ	355	8/83	236	6.50
Tulsa, OK	356	8/83	350	8.00
Tuscaloosa, AL	357	8/83	153	5.50
Tyler, TX	358	8/83	127	5.00
Utica-Rome, NY	359	9/83	166	5.50
Vallejo-Fairfield-Napa, CA	360	8/83	288	7.00
Victoria, TX	361	8/83	107	4.75
Vineland-Millville-Bridgeton, NJ	362	8/83	123	5.00
Visalia-Tulare-Porterville, CA	363	8/83	174	6.00
Waco, TX	364	8/83	157	5.50
Washington, DC-MD-VA				
Section 1 of 2	365	9/83	748	13.00 per set
Section 2 of 2			753	
Waterbury, CT	366	9/83	136	5.50
Waterloo-Cedar Falls, IA	367	9/83	128	5.00
Wausau, WI	368	9/83	108	4.75
West Palm Beach-Boca Raton, FL	369	8/83	329	7.50
Wheeling, WV-OH	370	9/83	144	5.50
Wichita, KS	371	8/83	203	6.00
Williamsport, PA	373	9/83	108	4.75
Wilmington, DE-NJ-MD	374	8/83	281	7.00
Wilmington, NC	375	8/83	130	5.00
Worcester, MA	376	7/83	152	5.50
Yakima, WA	377	9/83	136	5.00
York, PA	378	9/83	152	5.50
Youngstown-Warren, OH	379	9/83	279	7.00
Yuba City, CA	380	8/83	128	5.00

— Means not applicable.

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Population and Housing

Series PHC80-3, Summary Characteristics for Governmental Units and Standard Metropolitan Statistical Areas

Area	Report number	Release date	Number of pages	Price (dollars)
U.S. Summary	1	No report in series	—	—
Alabama	2	11/82	77	5.00
Alaska	3	11/82	54	4.75
Arizona	4	11/82	49	5.00
Arkansas	5	11/82	77	5.50
California	6	11/82	78	5.00
Colorado	7	11/82	63	5.00
Connecticut	8	12/82	55	4.75
Delaware	9	12/82	43	4.75
District of Columbia	10	11/82	41	4.50
Florida	11	11/82	73	5.00
Georgia	12	11/82	91	5.00
Hawaii	13	12/82	40	4.50
Idaho	14	11/82	55	4.75
Illinois	15	12/82	246	7.50
Indiana	16	12/82	176	6.50
Iowa	17	11/82	115	5.50
Kansas	18	12/82	197	7.00
Kentucky	19	12/82	78	5.00
Louisiana	20	11/82	67	5.00
Maine	21	11/82	79	5.00
Maryland	22	11/82	47	4.75
Massachusetts	23	11/82	67	5.00
Michigan	24	11/82	179	6.50
Minnesota	25	12/82	239	7.50
Mississippi	26	11/82	67	5.00
Missouri	27	11/82	135	6.00
Montana	28	10/82	52	4.75
Nebraska	29	11/82	125	6.00
Nevada	30	11/82	68	4.75
New Hampshire	31	11/82	60	4.75
New Jersey	32	11/82	85	5.00
New Mexico	33	11/82	49	4.75
New York	34	11/82	161	6.50
North Carolina	35	11/82	92	5.00
North Dakota	36	11/82	169	6.50
Ohio	37	12/82	215	7.00
Oklahoma	38	11/82	87	5.50
Oregon	39	11/82	61	4.75
Pennsylvania	40	12/82	233	7.50
Rhode Island	41	1/83	43	4.75
South Carolina	42	11/82	61	4.75
South Dakota	43	11/82	143	6.00
Tennessee	44	11/82	73	5.00
Texas	45	11/82	139	6.00
Utah	46	11/82	59	4.75

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Population and Housing

Series PHC80-3, Summary Characteristics for Governmental Units and Standard Metropolitan Statistical Areas—Con.

Area	Report number	Release date	Number of pages	Price (dollars)
Vermont	47	12/82	65	5.00
Virginia	48	11/82	67	5.00
Washington	49	12/82	61	4.75
West Virginia	50	11/82	62	4.75
Wisconsin	51	11/82	171	6.50
Wyoming	52	1/83	38	4.75
Puerto Rico	53	6/83	72	4.50

— Means not applicable.

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Population and Housing

Series PHC80-4, Congressional Districts of the 98th Congress

Area	Report number	Release date	Number of pages	Price (dollars)
Alabama	2	3/83	63	4.75
Alaska	3	3/83	57	4.75
Arizona	4	4/83	67	5.00
Arkansas	5	3/83	59	4.75
California	6	4/83	157	6.50
Colorado	7	4/83	60	5.00
Connecticut	8	3/83	62	4.75
Delaware	9	3/83	57	4.75
Dist. of Columbia	10	4/83	57	4.75
Florida	11	4/83	93	5.50
Georgia	12	4/83	66	5.00
Hawaii	13	4/83	57	4.75
Idaho	14	4/83	58	4.75
Illinois	15	4/83	107	5.50
Indiana	16	4/83	69	5.00
Iowa	17	3/83	60	4.75
Kansas	18	4/83	60	4.75
Kentucky	19	3/83	63	4.75
Louisiana	20	4/83	68	5.00
Maine	21	3/83	57	4.75
Maryland	22	4/83	68	5.00
Massachusetts	23	4/83	75	5.00
Michigan	24	4/83	81	5.50
Minnesota	25	4/83	68	5.00
Mississippi	26	4/83	60	4.75
Missouri	27	4/83	68	5.00
Montana	28	3/83	58	4.75
Nebraska	29	3/83	59	4.75
Nevada	30	4/83	59	4.75
New Hampshire	31	5/83	57	4.75
New Jersey	32	5/83	79	5.00
New Mexico	33	5/83	57	4.75
New York	34	5/83	120	5.50
North Carolina	35	4/83	72	5.00
North Dakota	36	3/83	57	4.75
Ohio	37	4/83	88	5.50
Oklahoma	38	4/83	69	5.00
Oregon	39	4/83	68	5.00
Pennsylvania	40	5/83	99	5.50
Rhode Island	41	4/83	58	4.75
South Carolina	42	5/83	61	4.75
South Dakota	43	4/83	57	4.75
Tennessee	44	4/83	63	4.75
Texas	45	4/83	107	5.50
Utah	46	5/83	59	4.75
Vermont	47	3/83	57	4.75
Virginia	48	4/83	69	5.00
Washington	49	4/83	68	5.00
West Virginia	50	3/83	59	4.75
Wisconsin	51	4/83	70	5.00
Wyoming	52	4/83	57	4.75

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Population and Housing

Series PHC80-4, Congressional Districts of the 99th Congress

Title	Report number	Release date	Number of pages	Price (dollars)
California	6	3/85	164	5.50
Hawaii	13	1/85	60	2.25
Louisiana	20	2/85	72	3.00
Maine	21	7/84	58	2.25
Mississippi	26	2/85	68	2.75
Montana	28	5/84	57	2.50
New Jersey	32	11/84	84	3.00
New York	34	10/84	128	4.75
Texas	45	8/84	108	4.50
Washington	49	9/84	72	3.00

1980 Census of Population and Housing

Series PHC80-4, Congressional Districts of the 100th Congress

Title	Report number	Release date	Number of pages	Price (dollars)
Ohio	37	5/86	96	4.50

1980 Census of Population and Housing

PHC80-E Series

Title	Release date	Number of pages	Price (dollars)
E1. The Coverage of Housing in the 1980 Census	8/85	68	2.50
E2. Content Reinterview Study: Accuracy of Data for Selected Population and Housing Characteristics as Measured by Reinterview	10/86	148	7.00
E3. Programs to Improve Coverage in the 1980 Census	3/87	84	4.00
E4. Coverage of Population in the 1980 Census	2/88	123	6.00

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Population and Housing

PHC80-P, Preliminary Population and Housing Unit Counts

Area	Report number	Release date	Number of pages	Price (dollars)
United States	1	3/81	2	.35
Alabama	2	2/81	12	.45
Alaska	3	2/81	6	.35
Arizona	4	2/81	4	.35
Arkansas	5	2/81	18	.70
California	6	2/81	12	.60
Colorado	7	1/81	8	.45
Connecticut	8	2/81	6	.45
Delaware	9	12/80	3	.35
District of Columbia	10	12/80	2	.35
Florida	11	2/81	12	.60
Georgia	12	2/81	15	.60
Hawaii	13	1/81	3	.35
Idaho	14	12/80	6	.35
Illinois	15	2/81	31	.90
Indiana	16	2/81	20	.70
Iowa	17	2/81	26	.85
Kansas	18	2/81	19	.85
Kentucky	19	2/81	12	.60
Louisiana	20	2/81	11	.45
Maine	21	12/80	8	.45
Maryland	22	1/80	6	.45
Massachusetts	23	12/80	8	.45
Michigan	24	2/81	20	.70
Minnesota	25	2/81	24	1.00
Mississippi	26	2/81	11	.45
Missouri	27	2/81	24	.70
Montana	28	1/81	7	.35
Nebraska	29	2/81	16	.70
Nevada	30	12/80	3	.35
New Hampshire	31	12/80	4	.35
New Jersey	32	2/81	8	.60
New Mexico	33	1/81	6	.35
New York	34	2/81	20	.70
North Carolina	35	2/81	16	.70
North Dakota	36	12/80	15	.45
Ohio	37	2/81	24	.85
Oklahoma	38	2/81	24	.45
Oregon	39	2/81	8	.45
Pennsylvania	40	2/81	24	1.00
Rhode Island	41	12/80	4	.35
South Carolina	42	2/81	8	.45
South Dakota	43	12/80	14	.70
Tennessee	44	2/81	12	.45
Texas	45	2/81	27	.85
Utah	46	1/81	7	.35

Appendix 8A. 1980 Census of Population and Housing Publication Reports

1980 Census of Population and Housing

PHC80-P, Preliminary Population and Housing Unit Counts—Con.

Area	Report number	Release date	Number of pages	Price (dollars)
Vermont	47	11/80	4	.35
Virginia	48	2/81	10	.45
Washington	49	2/81	9	.45
West Virginia	50	12/80	8	.45
Wisconsin	51	2/81	20	.85
Wyoming	52	11/80	8	.35
Puerto Rico	53	3/81	11	.45
Guam	54	6/81	2	.35
Virgin Islands of the U.S.	55	6/81	2	.35
American Samoa	56	6/81	3	.35

Appendix 8A. 1980 Census of Population and Housing Publication Reports**1980 Census of Population and Housing****PHC80-V, Final Population and Housing Unit Counts**

Area	Report number	Release date	Number of pages	Price (dollars)
United States	1	4/81	10	1.00
Alabama	2	4/81	20	.45
Alaska	3	4/81	9	.35
Arizona	4	3/81	8	.35
Arkansas	5	4/81	32	.70
California	6	4/81	20	.60
Colorado	7	4/81	15	.45
Connecticut	8	3/81	8	.45
Delaware	9	3/81	6	.35
District of Columbia	10	3/81	4	.35
Florida	11	4/81	19	.60
Georgia	12	4/81	28	.60
Hawaii	13	4/81	13	.35
Idaho	14	3/81	12	.35
Illinois	15	4/81	60	.90
Indiana	16	4/81	32	.70
Iowa	17	3/81	48	.85
Kansas	18	4/81	36	.85
Kentucky	19	4/81	21	.60
Louisiana	20	4/81	19	.45
Maine	21	3/81	11	.45
Maryland	22	3/81	12	.45
Massachusetts	23	3/81	10	.45
Michigan	24	4/81	32	.70
Minnesota	25	4/81	46	1.00
Mississippi	26	4/81	20	.45
Missouri	27	4/81	44	.70
Montana	28	3/81	11	.35
Nebraska	29	4/81	32	.70
Nevada	30	3/81	7	.35
New Hampshire	31	3/81	8	.35
New Jersey	32	3/81	15	.60
New Mexico	33	4/81	10	.35
New York	34	4/81	30	.70
North Carolina	35	4/81	30	.70
North Dakota	36	3/81	30	.45
Ohio	37	4/81	44	.85
Oklahoma	38	4/81	23	.45
Oregon	39	4/81	13	.45
Pennsylvania	40	4/81	46	1.00
Rhode Island	41	3/81	6	.35
South Carolina	42	4/81	16	.45
South Dakota	43	3/81	24	.70
Tennessee	44	4/81	20	.45
Texas	45	4/81	48	.85
Utah	46	3/81	11	.35

1980 Census of Population and Housing**PHC80-V, Final Population and Housing Unit Counts—Con.**

Area	Report number	Release date	Number of pages	Price (dollars)
Vermont	47	3/81	8	.35
Virginia	48	3/81	17	.45
Washington	49	3/81	14	.45
West Virginia	50	3/81	16	.45
Wisconsin	51	4/81	34	.85
Wyoming	52	4/81	7	.35
Puerto Rico	53	3/82	11	.45
Guam	54	10/82	4	.35
Virgin Islands of the U.S.	55	10/82	4	.35
American Samoa	56	11/82	5	.35